

Tales of Walnut Hill



By Robert Summa

Volume 11



Welcome to the Tales of Walnut Hill

We have a rich history we will share as you read this book. We will look at the past and the all-time greats that left their mark on the history of Walnut Hill: the masters of rifle shooting and pistol shooting. They generated the spirit of the Hill through competitive shooting. What they built and shot was a challenge. They were the distinguished shooters of the Hill. They came from all over the country to shoot at

Walnut Hill. We have Harry Pope, the greatest barrel maker of his time and a master rifle shooter. We have Niedner, an all-time great, a master rifle shooter, and one of the top gunsmiths of his time who chased Geronamo all over the southwest in the 6th Calvary. Then there is Dr. Mann, the father of ballistics, who in 1909 published *The Bullet's Flight* in his quest for the magic bullet and the magic barrel for the perfect score with the perfect rifle. He was a medical doctor and gave up his practice for his quest in ballistics. Then there are D. L. F. Chase, Ned Roberts, Horace Warner, H. V. Perry, Norman Brockway, C. W. Rowland, H. L. Willard, E. A. Leopold, W. V. Lowe, the Russell brothers, Arthur Corbin Gould, N. C. Nash, O. E. Gerrish, John Kelley, Will Hayes, Dr. W. G. Hudson, the great offhand shot Adolph Strecker, Dr. Baker, L. P. Hansen, Young, Mr. Fry, Daniel Fox, Major Hinman, F.J. Rabbeth and Professor Bell. All are the masters of the rifle. The masters of pistol are C. Paine, Tom Anderton, Eugene Patridge, and Dorothy Knight at Walnut Hill. The riflemen of the Hill, having looked at the American militia team's defeat at Creedmoor, decided to do something about it, so they trained a militia rifle team. Some were members of Walnut Hill and knew the game of long range shooting, and were sent to Creedmoor where they won every event entered. The Walnut Hill riflemen were men of stature: doctors, engineers, and masters of their trade. They were men that enjoyed the shooting sport and did all they could to preserve it for the future generations to come. They shot offhand at ranges of 600, 800, 900, and 1000 yards, holding the finest rifles of their day. H. Pope was the father of the game twist rifle barrel. Pope and Niedner made barrels for Dr. Mann.

All proceeds from the selling of these books will go to the Massachusetts Rifle Association to preserve the history of the M.R.A. through our Museum. If you can help, I thank you. I am looking for old photos of Walnut Hill to share with our membership. The one thing I have learned about history: if someone does not record it, it is lost for all time. But these books will present a vast history which we will share with the world. As you read and look at all the photos, know the books will be a treasure for future generations after we have all come and gone. The books detail the Tales of Walnut Hill. And we will only print 100 books in each series, for this is truly a limited edition!

Robert Summa
M.R.A. Historian at the Walnut Hill Range

The Massachusetts Rifle Association

Tales of Walnut Hill

Volume 11

I dedicate this book to

Richard Stanton

and

American Single Shot Rifle News

and

Michael Petrov,

for all his help in making this book possible,
including photos from Niedner's scrap book

*All photos of the Lever Bolt Action Rifle
and Ballard Rifle have been taken
by Richard Stanton, a life member of Walnut Hill.*

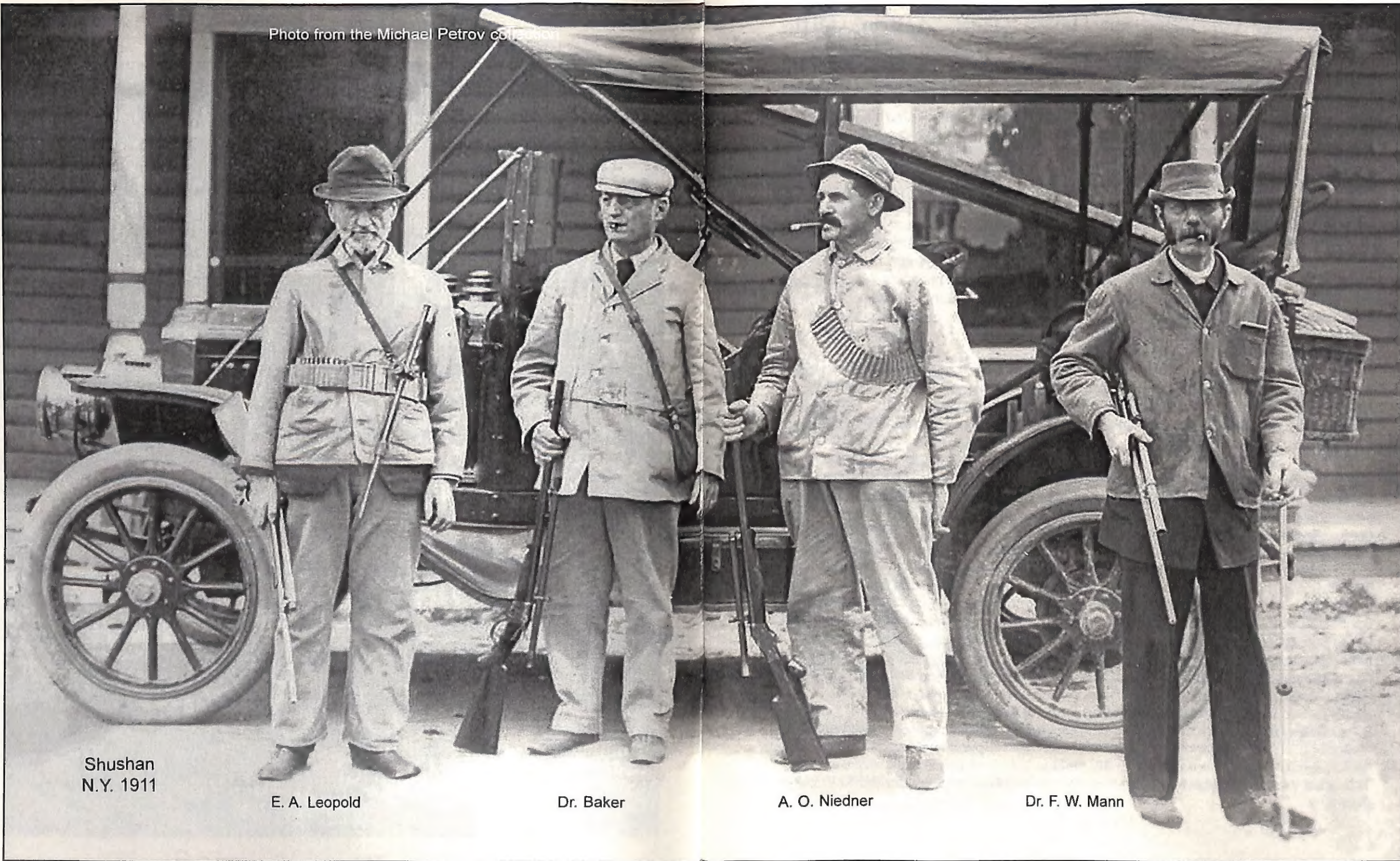
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Introduction

You are about to go on a journey into the past. At the end of this road is the Massachusetts Rifle Association, the oldest shooting range in the United States. We have been shooting at Walnut Hill from 1875 to the present day; the stories and questions have not changed over the years. I hope you'll enjoy these unique stories and viewing photos of the time. The stories are very informative and record the bonding and respect of the many men and women of the era. Some of these stories are tragic, and will bring a tear to your eye. They'll cover rifles, pistols, trap shooting, hunting, and fishing trips by the members of Walnut Hill. It's like rubbing the magical lamp of Aladdin, reliving the myths and legends of the Hill. That genie of discovery has made possible the contributions of rich knowledge, accomplishments, and achievements, which have been hidden for centuries in the dark vaults of the MRA, waiting to be shared with the new generation of the Hill. All I can say is that there's something in the air at Walnut Hill—or it's the magic and intrigue of the all-time greats that have entered the hallowed ground of the Walnut Hill Legend!

Photo from the Michael Petrov collection



Shushan
N.Y. 1911

E. A. Leopold

Dr. Baker

A. O. Niedner

Dr. F. W. Mann

7 The A. O. Niedner Lever Bolt Action Rifle

The A. O. Niedner 25/60 Lever Bolt Action Rifle of 1912
The Walnut Hill Legacy: A. O. Niedner
By: Robert Summa (MRA Walnut Hill Historian)

In the last three years I have been on a tremendous quest. a quest to find, research, and record the history of Walnut Hill and its 128 year legacy. Walnut Hill is a true historic treasure just waiting to be discovered. From the archery range to the outdoor ranges, from the eaves to the floor, and behind every door, a piece of lost history is waiting to be found.

I have written two series about this historic site. The Walnut Hill Legacy contains 15 volumes, and Tales of Walnut Hill will go on forever. I have enough material for 30 more volumes; it has developed a life of its own. This story is about the A. O. Niedner Lever Bolt Action .25 caliber rifle, which is in the MRA museum. It is part of the Dr. F. W. Mann collection, which was generously donated by his daughter, Mrs. Gertrude L. Jones of Mendon, Mass., on September 6, 1939.

In 2001, I wrote Volume 10 on the Mann test barrels. Earlier this year, while reading Precision Shooting magazine, I noticed a photo of the Boston Gun and Revolver Club. It had photos of MRA members and past presidents. I wrote to the author, Mr. Michael Petrov, and sent him some books from both my series. Mr. Petrov lives in Alaska, and it was about a month before he got my parcel.

While researching and putting together a new layout, the phon range. Surprisingly, it was Mr. Petrov; we talked for over an hour. I shared some of the club's history with him. He was quite impressed, and sent us a copy of the photo in question along with other photos and stories. Mr. Petrov has a photo album of A. O. Niedner, and over the years has written many superb stories.

One of the stories he sent us covers the A. O. Niedner Lever Bolt Action Rifle, written by Dr. Baker in 1912. Dr. Baker was a good friend of Dr. Mann, E. A. Leopold, and A. O. Niedner. They often went woodchuck hunting at Dr. Mann's farm at Union Hill, and, at times, Walnut Hill as well. The story encompassed the correspondence, idea, and development of the rifle by the top riflemen of the era. It took many years to finalize this idea, for there were hundreds of possibilities, mostly discussed in Crank's Corner at the MRA.

Dr. Mann and Niedner were very persistent, but producing a rifle that could withstand 80,000 PSI in that era was no easy task. Rifles in that era including Winchester, Remington's and Ballard's that were made for black powder pressures - even the 03 Springfield was in the 37,000 PSI range, as a modern rifle using smokeless powder. The Lever Bolt Action left them in the dust, as the first single shot high-pressure rifle of the time. Their goal was to develop an action, from scratch, and a .25 caliber bullet and jackets to withstand 3,000 feet per second. The rifle case was based on the 30/40 Krag rimmed case.

E. A. Leopold was a telegrapher for the Reading Railway in Norristown, PA, while Baker was a doctor of dentistry, and A. O. Niedner was most probably the greatest rifle maker of his time. Mr. Mann had a very impressive background as well. He was a medical doctor, a great inventor, a ballistics expert, and the author of The Bullet's Flight in 1909. This great work, which was far ahead of its time, was a firearms bible for World War 2 Germany.

In the winter of 1911-12 on the Mann farm, after 18 months of work, a rifle was completed and tested. This rifle had a tremendously strong steel forged receiver. It weighed 7 ½ pounds and had the action strength to handle the high chamber pressures of the .25 caliber rifle bullet. This was truly ground breaking territory they were testing.

Dr. Mann had experimented with the .25 caliber shell and bullet in 1904. The shell he used was based on the 30/40 Krag shell necked down to .25 caliber. Mann had help from the Chief of Ordinance in Washington, in the development of the new case. Now with some governmental backing, the Frankfort Arsenal drew up 500 special shells that were uniformed cases which were necked to specific dimensions by Dr. Mann. For the final case length, Dr. Mann made the case forming dies and the reloading dies from his chambering reamers that he used to chamber the Pope Barrels for A. O. Niedner 1910 Bolt Action Rifle and the Lever Bolt Action. He had to make a new set of dies for swaging the .25 caliber rifle bullets, as he had tested the .25 caliber rifle bullets from 1904, with his final design tested in 1911. Dr. Mann designed his own swaging press and dies for his experiments on the .25 caliber bullet. I have a photo from the Mann family album.

As a great experimenter, he tested the finest rifle powders of the day, and decided to use Lightning powder. He used 60 grains for his final testing. It was superb in accuracy, and we have some test target photos from the family album, which has photos that were used in his book The Bullet's Flight in 1909.

The final stage was finding the correct combination of bullet shape, weight, and jacket material to withstand the high pressure. This took eight years and the final product was the .25/60. Mann and Niedner did test two rifles on a woodchuck hunt in May 1911.

To see how the high-pressure action was made to fit, refer to the photos in Volume 11 of Tales of Walnut Hill. The fit was so good, you can't even see a seam!

As you can see, Richard Stanton and I are enjoying this research on the Lever Bolt Action Rifle. It has been most enjoyable to find and record the great history of Walnut Hill. It has been the greatest adventure of my life - even better than the trip to Alaska Bob Rogers and I had been on! Richard is having fun with his new camera; as you can see, his photos are superb in their quality. Richard has a machinist background at MIT, and enjoys drafting. He is working on spec drawings of the A. O. Niedner Lever Bolt Action Rifle, so you wizards of the rifle-making world can have drawings to reproduce this great rifle of the past. We will send a set of photos and drawings to the American Single Shot Rifle News along with Volume 11 as soon as possible.

The one thing I have learned about history: if someone does not record it, it is lost for all time. I have learned a lot in my research of MRA. It is staggering what has happened at Walnut Hill in the past century. What an adventure! It's like going into the burial chambers of the Great Pyramids of Egypt in my quest for the knowledge of Walnut Hill. If there is anything you do in your life, read the history of Walnut Hill; it will be the greatest story ever told, for we all leave a legacy at Walnut Hill. We are all part of the story of the Hill for future generations to come.

I hope you enjoy the story and photos. Specials thanks to you, Rudi Prusok of the American Single Shot Rifle News for the use of the Mann family album. See you on the range!



Another .25 Caliber Rifle By Dr. H. A. Baker

The Outer's Book, October 1912 from the Petrov collection

The article by N. H. Roberts, as published in the September number of *The Outer's Book*, contained most interesting news of a new .25 caliber made by A. O. Niedner, of Malden, Massachusetts.

It occurred to me immediately upon reading this article that a similar one, single shot action taking the same ammunition, would also give your readers some more interesting data.

This rifle to which I refer, was brought onto the woodchuck field last May by Dr. F. W. Mann simultaneous with the Niedner single shot bolt action so well described by Mr. Roberts.

The accompanying illustration shows the action to be a cross between a bolt and a lever. The firing pin is a continuous rod and strikes the primer a direct blow, as do all modern bolt actions.

It has a direct sliding extractor operated by a cam. This extractor withdraws a fired shell so completely that the hand is not able to detect the instant when the shell begins to move backward. It will either extract or break the rim from the shell.

It is noticeable that the stock and fore stock are of one piece of wood and cover up the lever action as completely as is desired. This adds a beauty to the design, not found in lever actions. It has a true pistol grip and not an imitation of one.

Apropos to the lever and bolt action controversy, to which we have of late been treated so sumptuously, we would notice that Dr. Mann has taken the bull by the horns and solved the dilemma. He and Mr. Niedner have completed at great expense a lever bolt action. Instead of throwing hot air they have been at work. To the undecided ones we illustrate this combination.

The general design of the whole of this rifle and its enormously strong receiver and action were the outcome of four or five years' correspondence between E. A. Leopold and Dr. Mann.

Mr. Niedner at the earnest solicitation of Dr. Mann, undertook in August 1910, to produce from a solid block of forged steel, weighing seven and one-half pounds, a safe action of great strength and one for heavy chamber pressure.

The thorough search by Leopold and Dr. Mann disclosed the fact, that all modern single shot actions produced in America, without exception were antiquated, having been designed for low pressures. Each one was designed for use during old black powder days. Their search, unless an error has crept in, also discloses that fact that our famous Government Springfield was designed when chamber pressures were about 37,000 pounds per square inch. This government action now is put to a regular pressure of 50,000 pounds and that it bears up under this pressure does not alter the fact that it was designed for lower pressure ammunition. A small fraction of an ounce of steel properly placed in this action would have made this criticism void. If these gentlemen have arrived at a wrong conclusion they would appreciate it if the fact could be made known since the charge they make is a serious one against our American factories.

The metal in the receiver of all of these actions is most poorly distributed, making the action unnecessarily weak where strength is required and very heavy where no metal at all

is needed. Mr. Niedner's task was to correct all errors as mentioned above, along with many others, and construct a genuine high-pressure single shot action. After hundreds of constructions had been discussed and discarded and the general design of the whole rifle had been brought to the lines and requirements as laid down by Dr. Mann, at the end of eighteen months the arm was tested at snow shooting on his homestead range in the winter of 1911-12.

Dr. Mann began experimental work with the .25 caliber shell and bullet eight years ago, in 1904. The first shell used by him is represented by No. 1 in cut on page 27 and is the same as all of Mr. Niedner's .25 caliber high power shells. It is the same as described and illustrated in Dr. Mann's book *The Bullet's Flight*, published four years ago. The same as Mr. Roberts had tested out and reported in his article to this magazine April 13, 1911, in which article he omitted to give the origin of the shell he used. No improvement in this shell could be realized either by Dr. Mann or by those who were using his .25 caliber shell, until the Chief of Ordnance at Washington had recognized Dr. Mann's work and was willing to assist.

The Government at the Frankfort Arsenal drew 500 special shells for Dr. Mann, one of which is shown in this article as No. 8 on page 29.

After perfecting the different dies necessary and overcoming various obstacles, he produced from this shell the samples Nos. 9 to 19, respectively, in cut on page 29.

Dr. Mann took long series of chamber pressures with several of these shells and No. 19 shell, holding 60 grains of Lightning powder, was selected by him.

He made a full set of chambering tools and these tools were used for his rifle the one herewith represented and afterwards, in 1912, for Mr. Niedner's rifle, the one illustrated in Mr. Roberts' article.

Dr. Mann's most difficult task was to discover a bullet, which would bear up under these excessive pressures and discover the correct rifling. It was not until the close of eight years of die making and .25 caliber bullet making that he was able to draw the jackets and fill these little bullets to his satisfaction. The combination of cartridge making factories can do more to thwart an experimenter than one would at first suppose.

Some of the many .25 caliber two cylinder bullets for which he built dies are represented on page 27.

It was only up to the last minute that he was able to get the Pope cut rifling in a genuine .25 caliber nickel steel barrel. He was able to get four of these barrels, one of which, Mr. Niedner has in the rifle described by Mr. Roberts.

Snow shooting, or recovering bullets in the snow, with this .25-60 shell, in 1911, gave Dr. Mann a clue as to what must be done. In 1912 new dies for bullet jackets were immediately produced and 500 bullets and shells as represented by No. 1 in Mr. Roberts' article, and No. 19 in this article, were produced by Dr. Mann for his own rifle and Mr. Niedner's rifle. They were tried simultaneously during our May hunt.

Mr. Roberts, in his last article and his previous one in 1911, which appeared in *Arms and the Man*, seems to have inadvertently fallen into some errors respecting the development of the .25 caliber, the rival of the Imp. During the whole of the time when Mr. Niedner was working on the rifle herewith represented, Dr. Mann told him repeatedly that no matter how this first was designed, the second single shot action made by him (Niedner) would

be quite different and this contention has proved to be decidedly true.

The .25 high power of 1911 was a forerunner of the 1912 Niedner bolt. Either of these actions will bear a chamber pressure of 80,000 pounds without even beginning to test their strength. The margin of safety is so great in either that the chamber pressure can be carried with entire safety much above 80,000 pounds. The weight of the lever bolt action represented in this article is considerably less than the weight of the Stevens, Winchester or Remington single shot and its strength is fully four times as great. This fact clearly demonstrates Dr. Mann's oft-repeated contention, that the American single shot action should be classed as junk heaps.

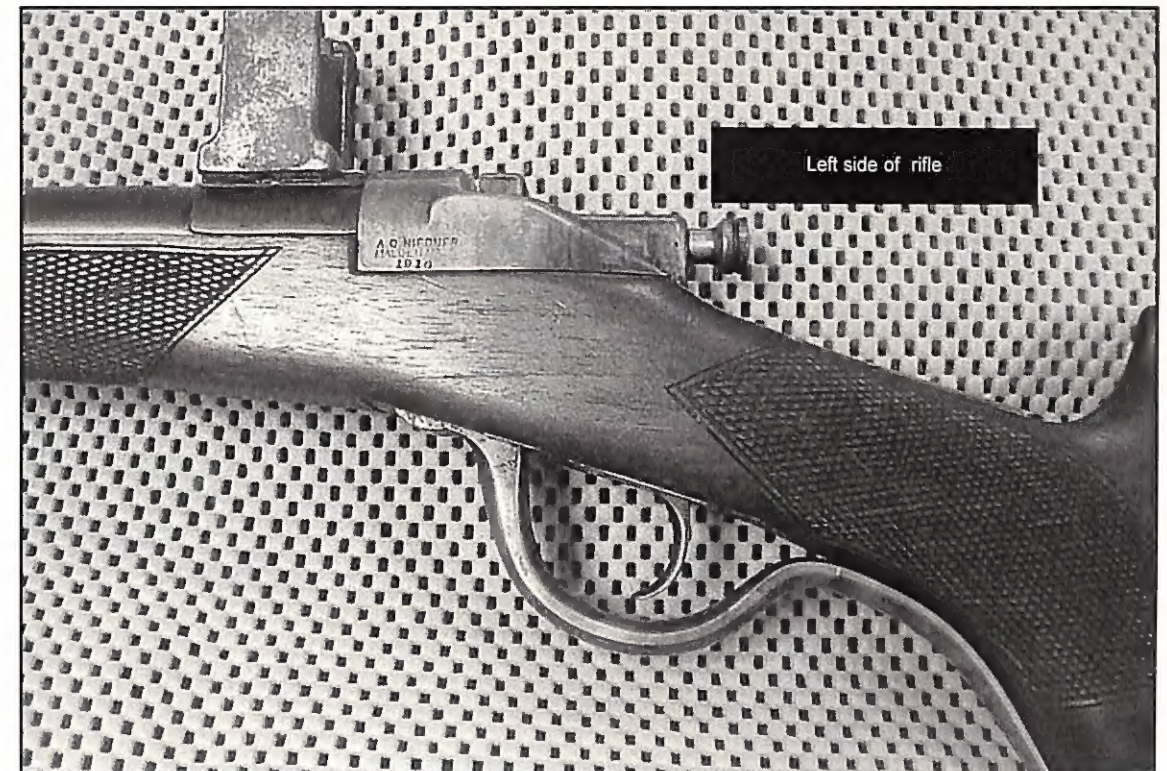
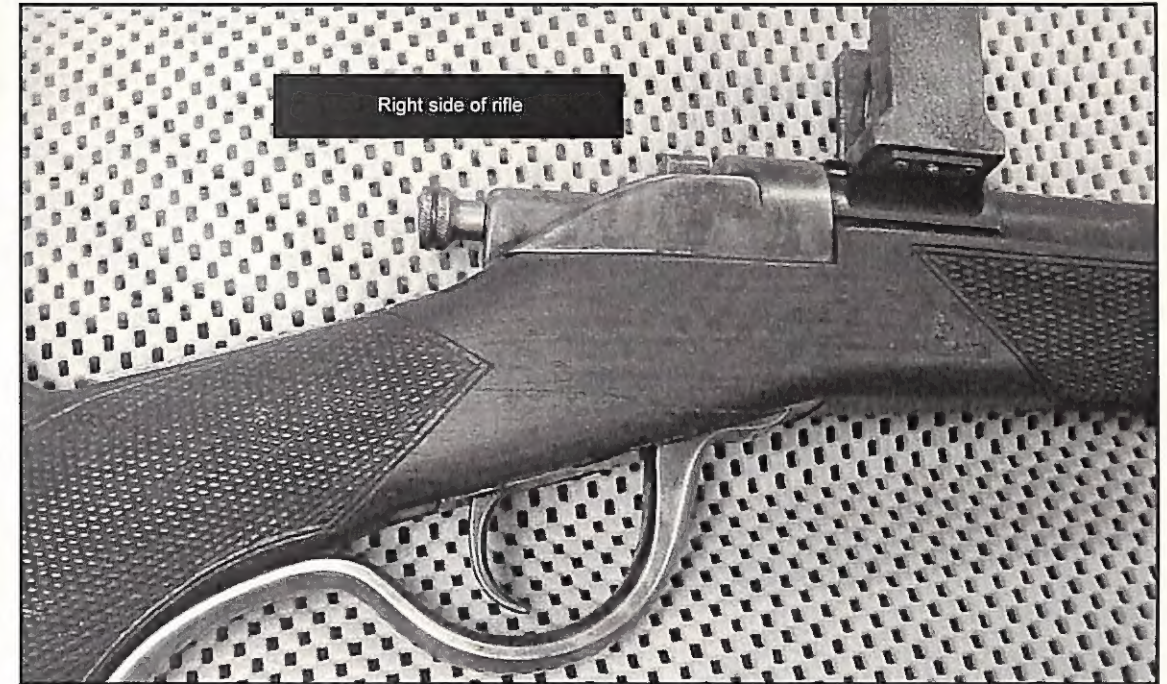
Whatever good word Mr. Roberts may say about the Niedner single shot bolt action or anything that I can say about Dr. Mann's rifle can only express the half of it. The strength and safety of these rifles cannot be realized by reading their description. Niedner's action can show the world how a modern single shot action should be designed. Without doubt much more will be heard about the Niedner rifle as time goes along.

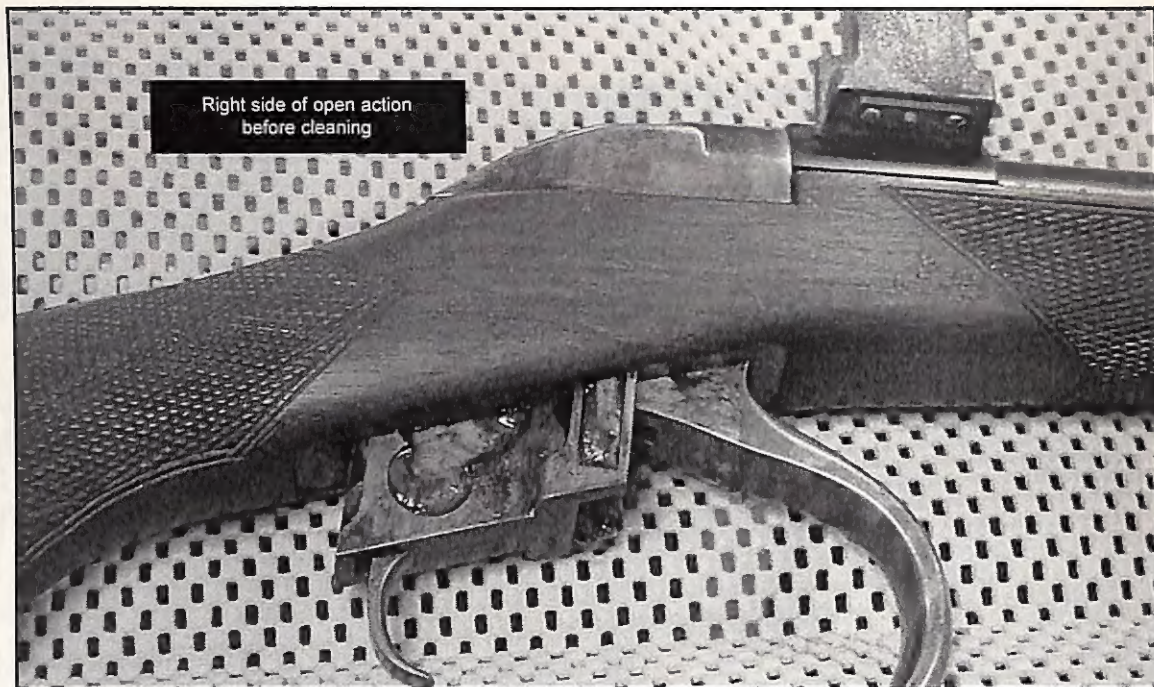


The above rifles are from the Dr. F. W. Mann collection that is in the M. R. A. Museum.

1 ~ Top rifle is a Ballard .28 caliber that has been lightened by drilling holes in the action and grinding metal from the frame in non critical areas. As you will see in the coming photos, starting on page 41.

2 ~ Bottom rifle is the Niedner Lever Bolt Action Rifle. As you can see there is a scope mount missing in the front for the original Sidel 10 power scope that is in the collection; one of the lenses is broken and is in the process of being fixed. The scope mount is of Dr. Mann's own design. The action is a cross between a bolt and a lever action rifle.

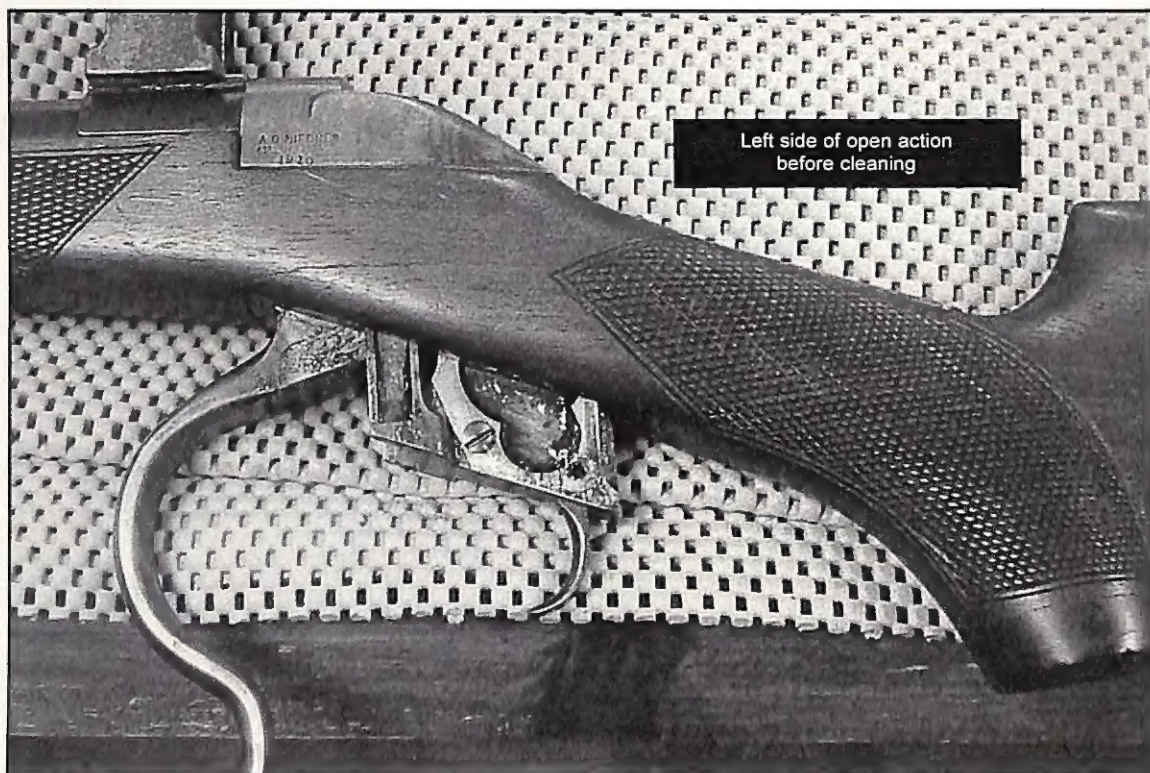




Right side of open action
before cleaning



Name and date on
receiver



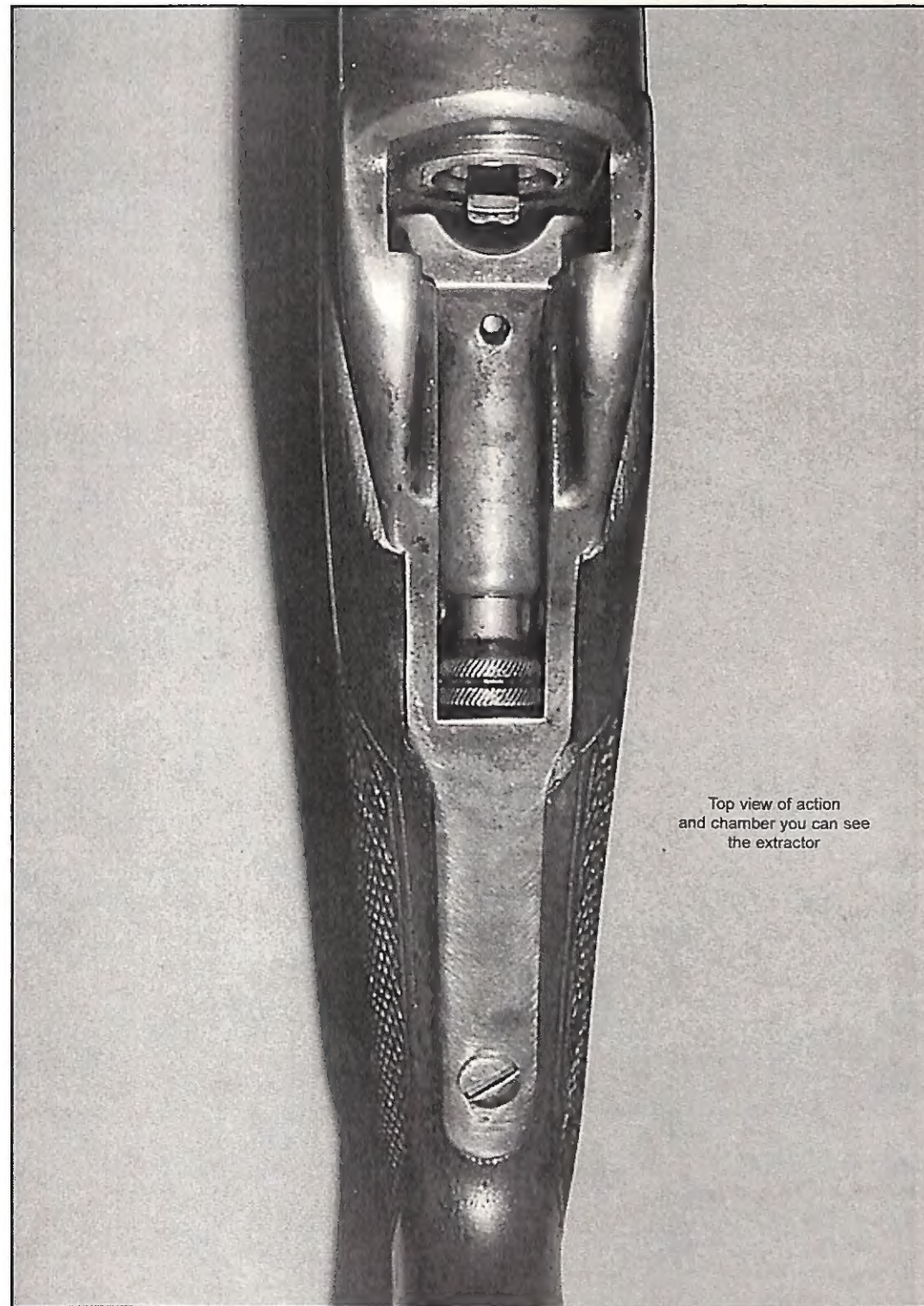
Left side of open action
before cleaning



Muzzle of .25 caliber Niedner Bolt Lever Rifle
*As you can see, there is no crown on the muzzle;
the muzzle is 3/4"*



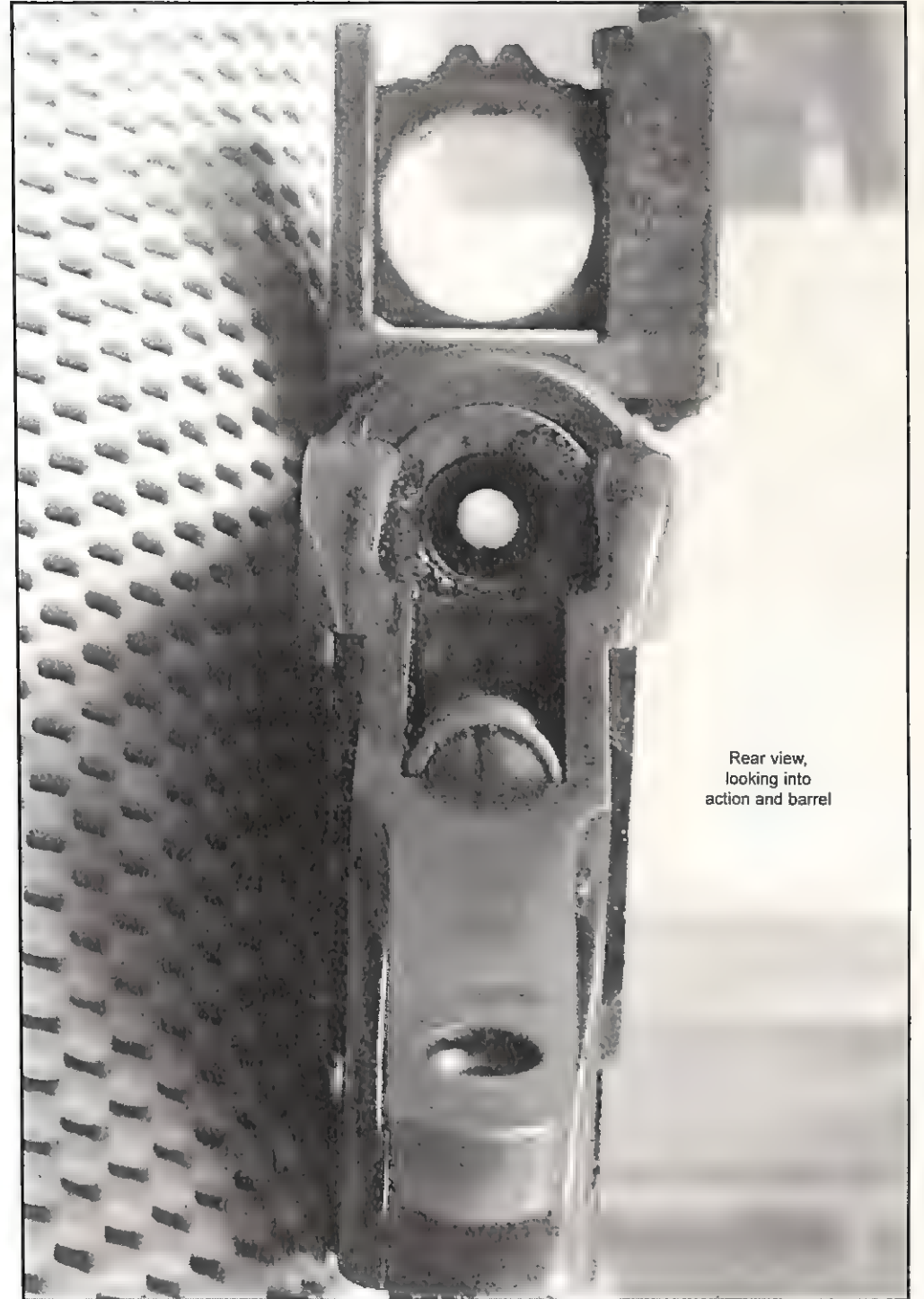
Top view of action
and chamber you can see
the extractor

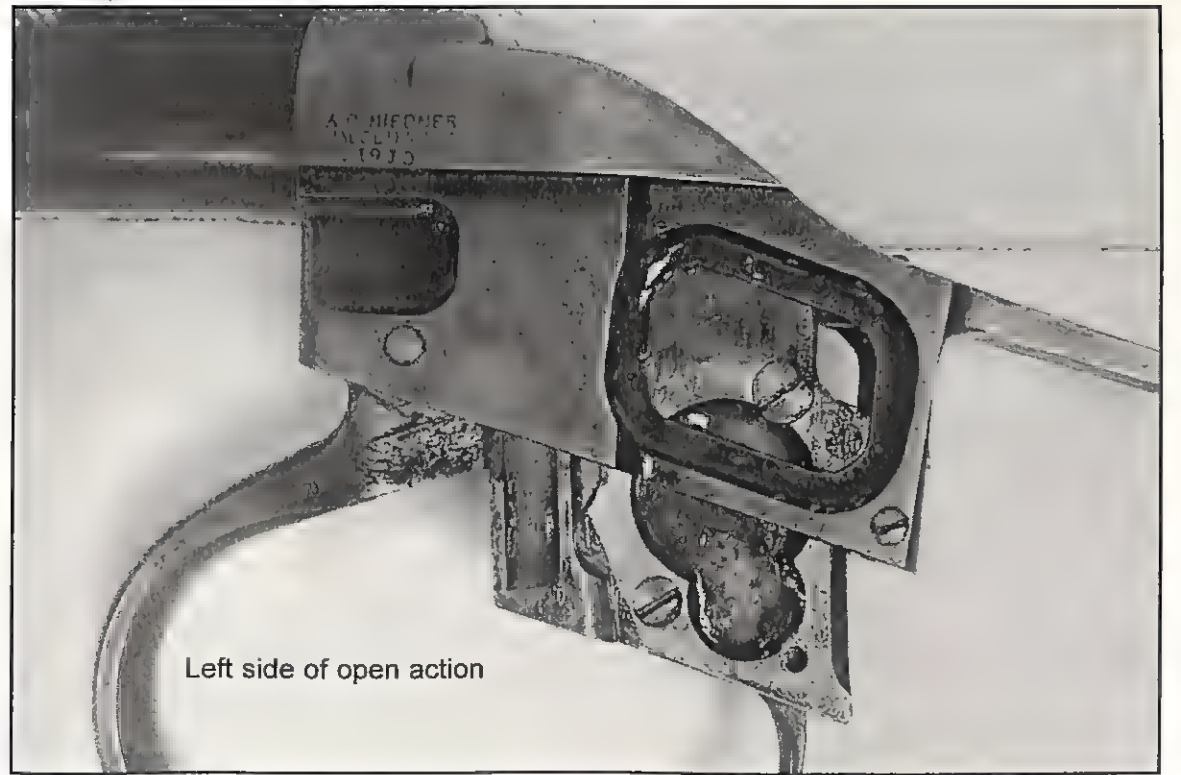
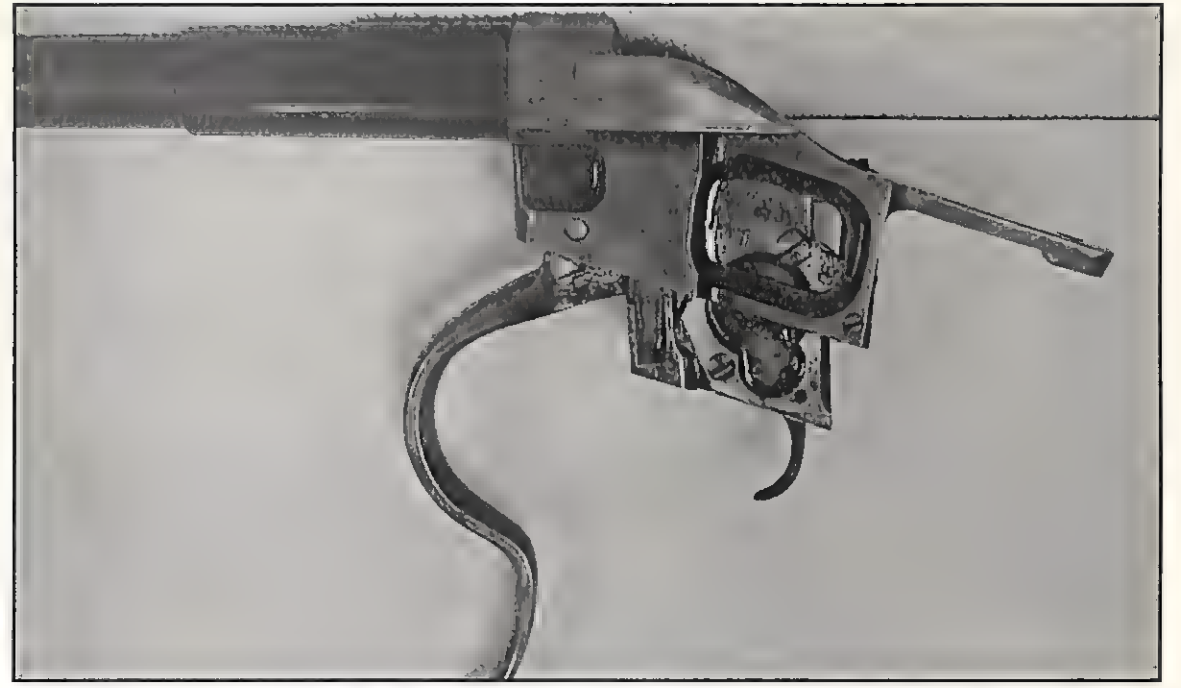
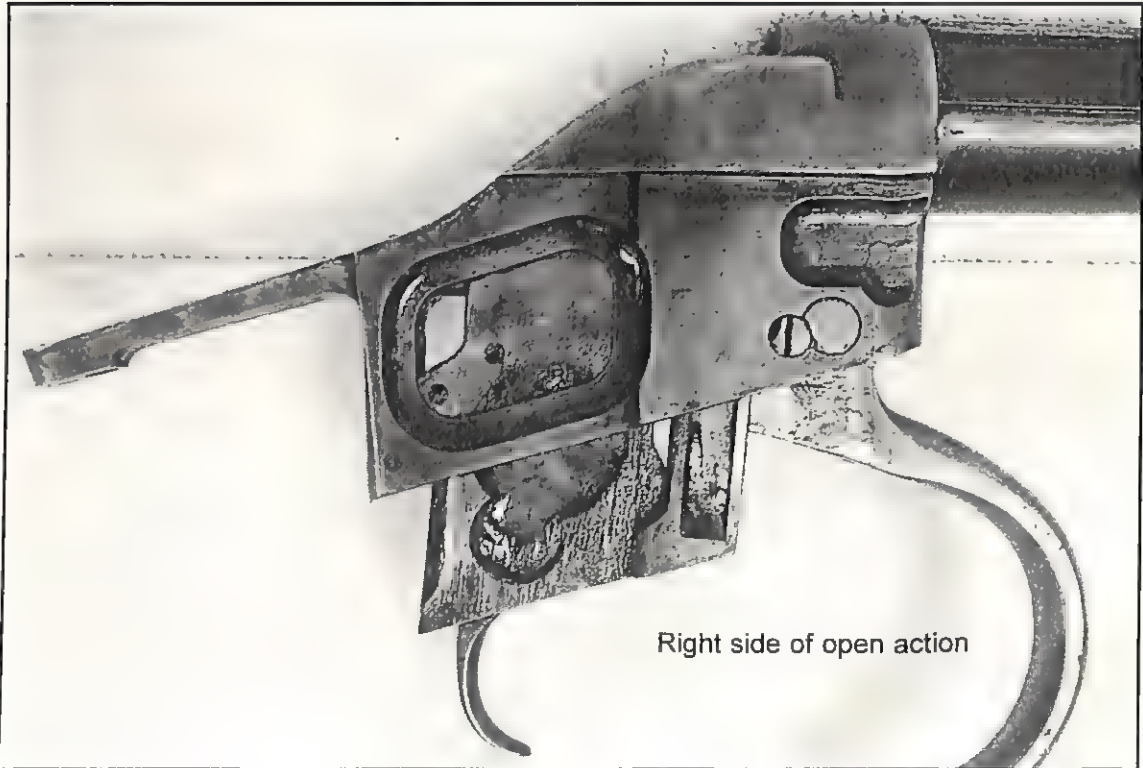
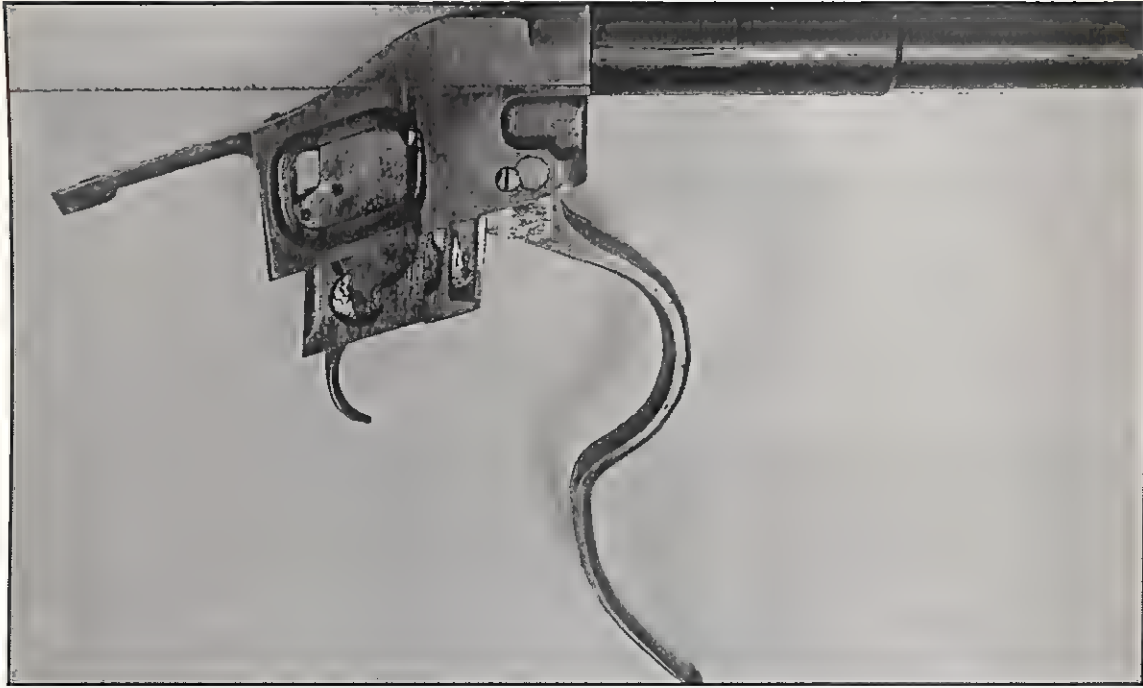


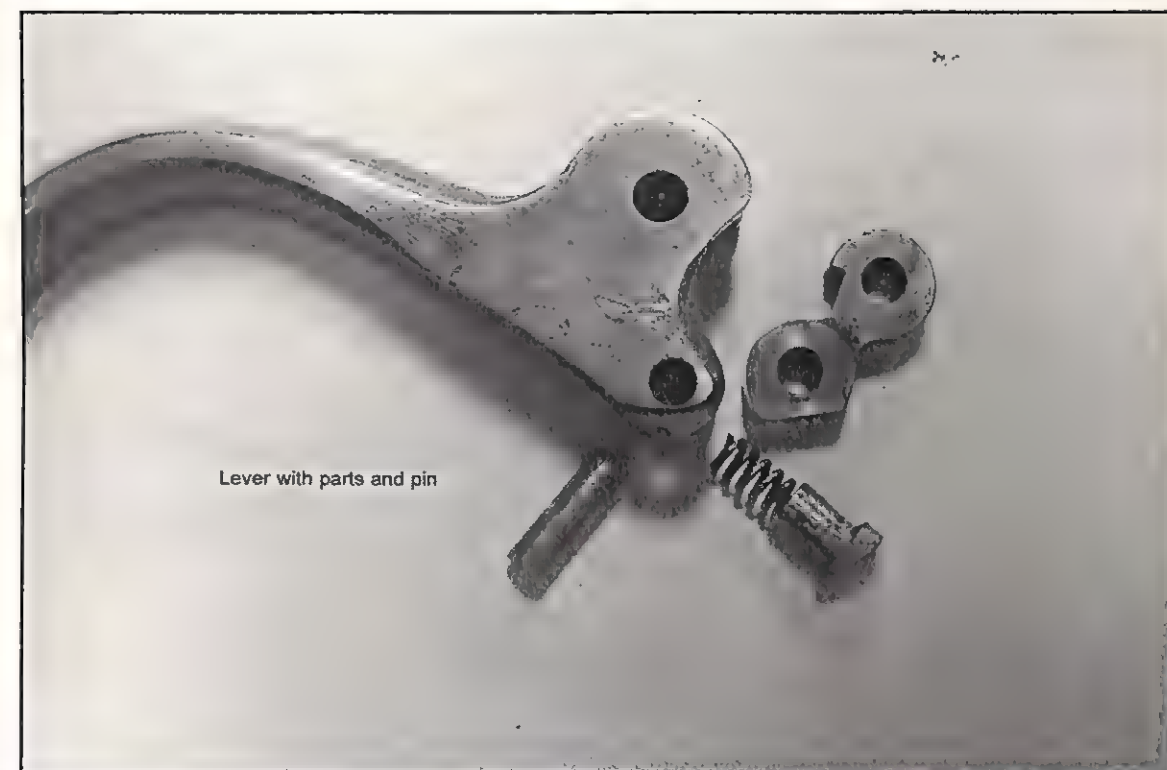
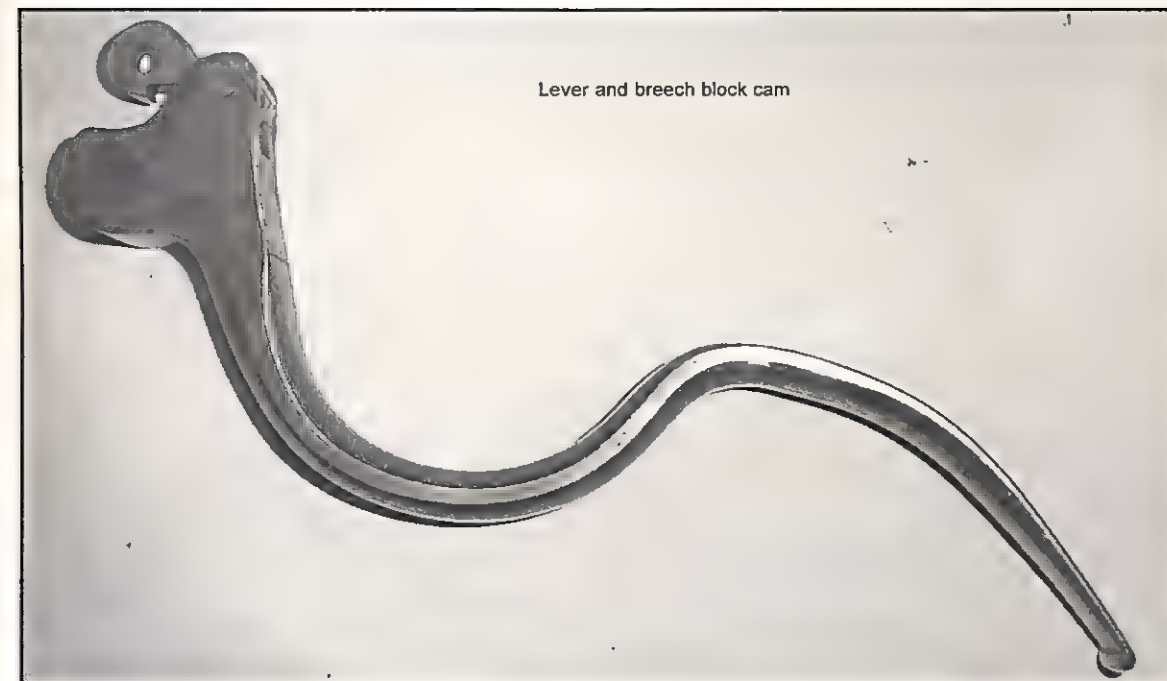
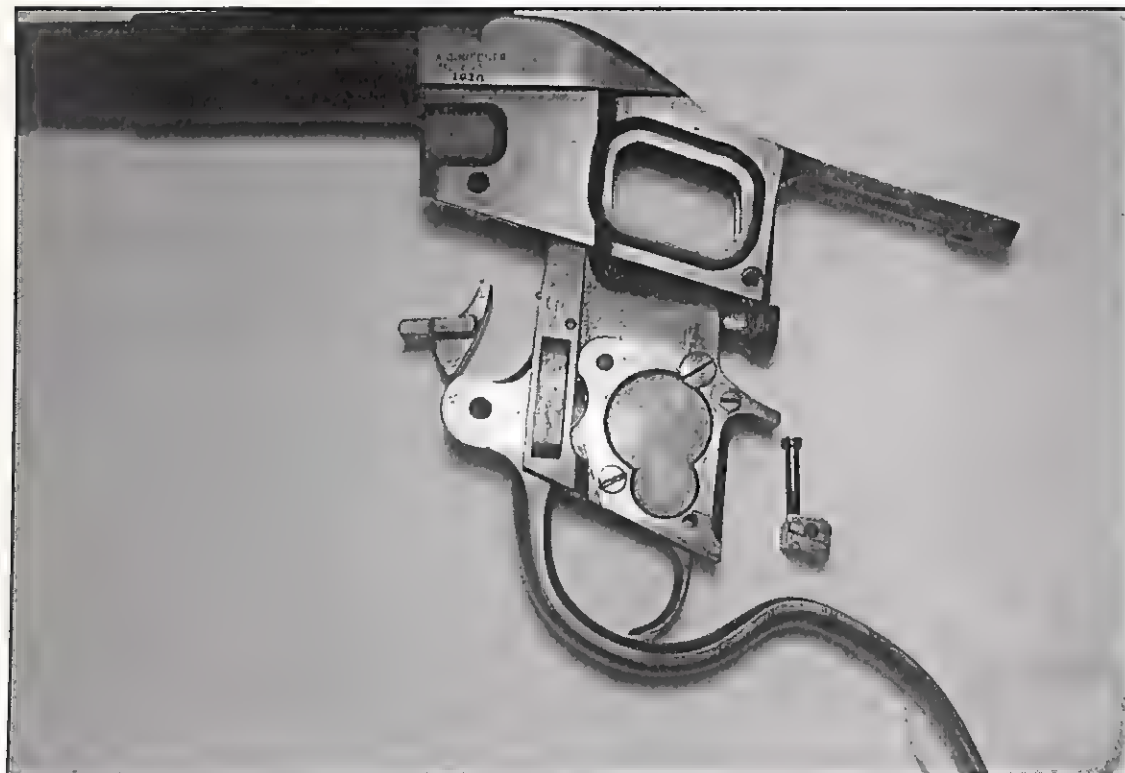
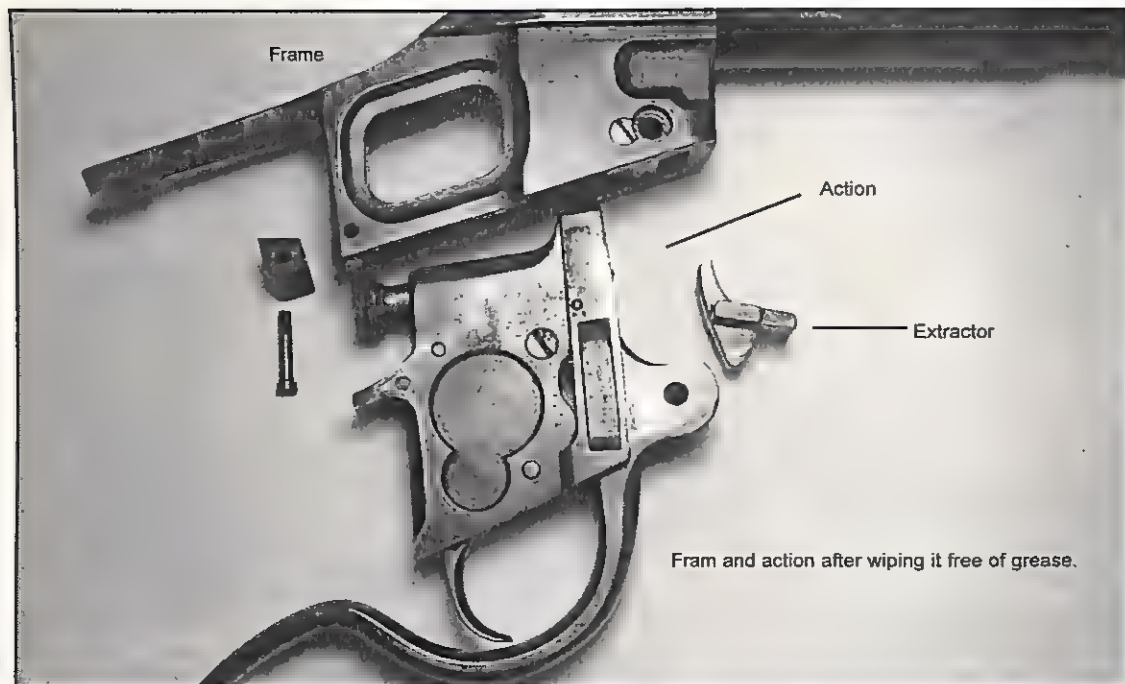
Bottom view of lever and trigger



Rear view,
looking into
action and barrel

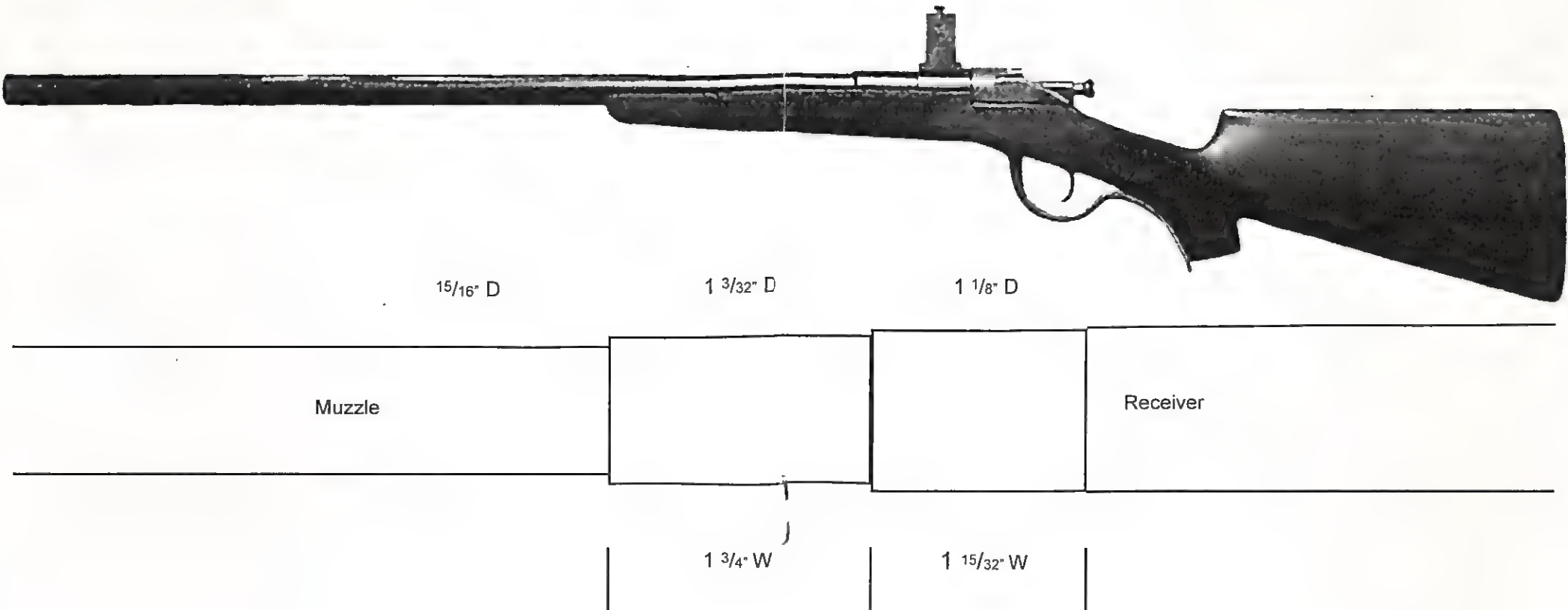


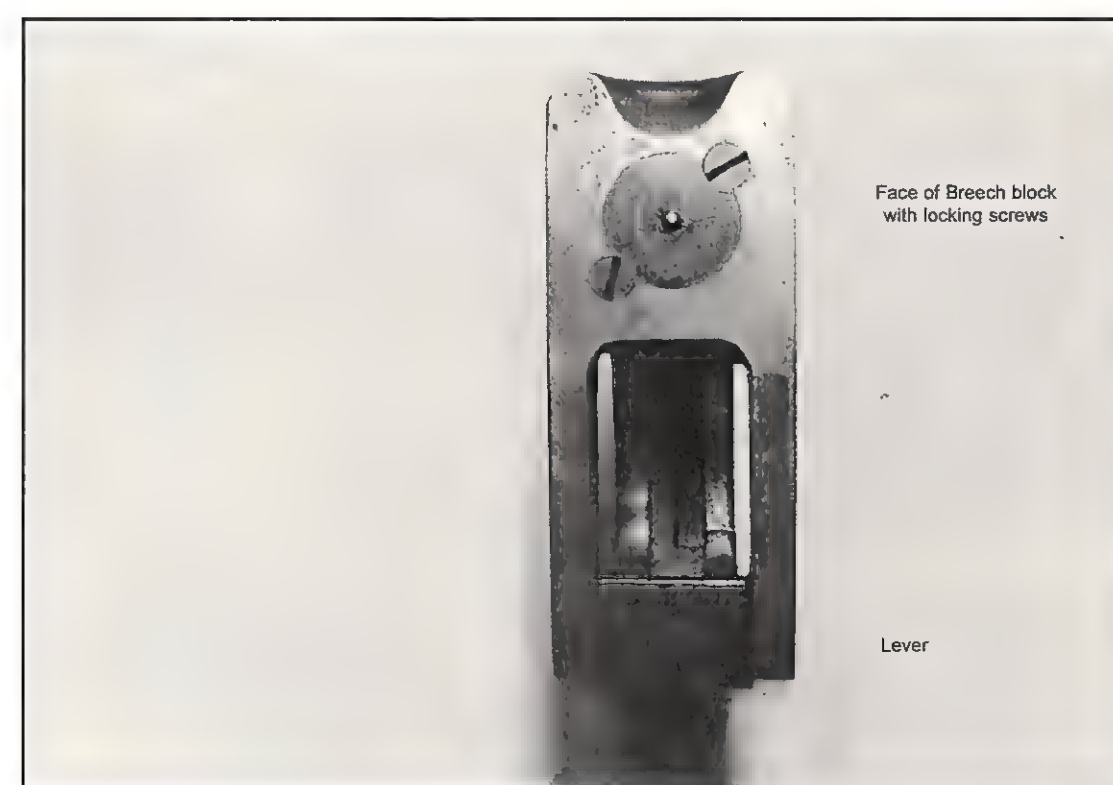
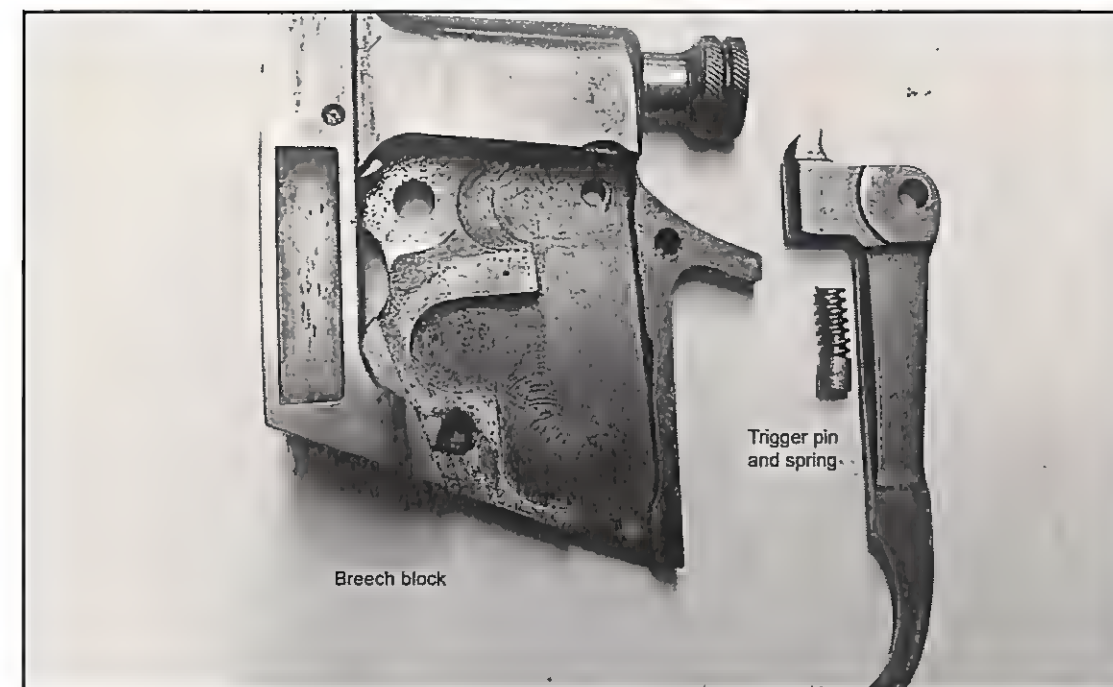
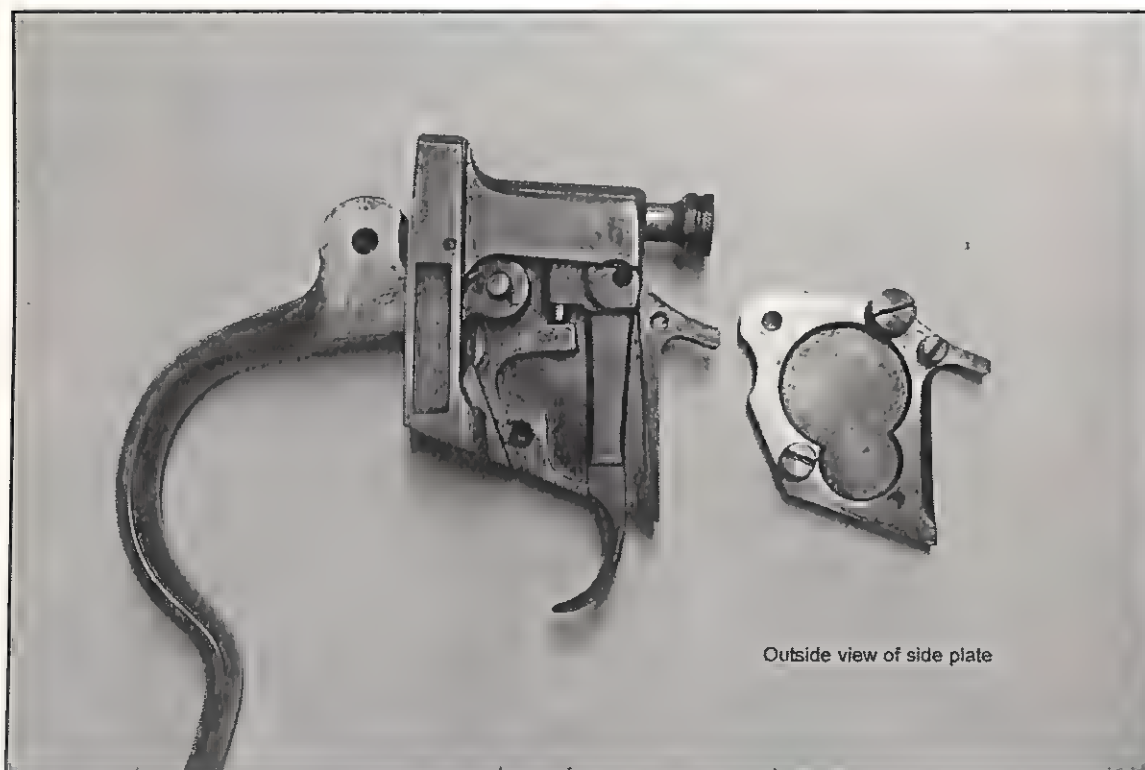
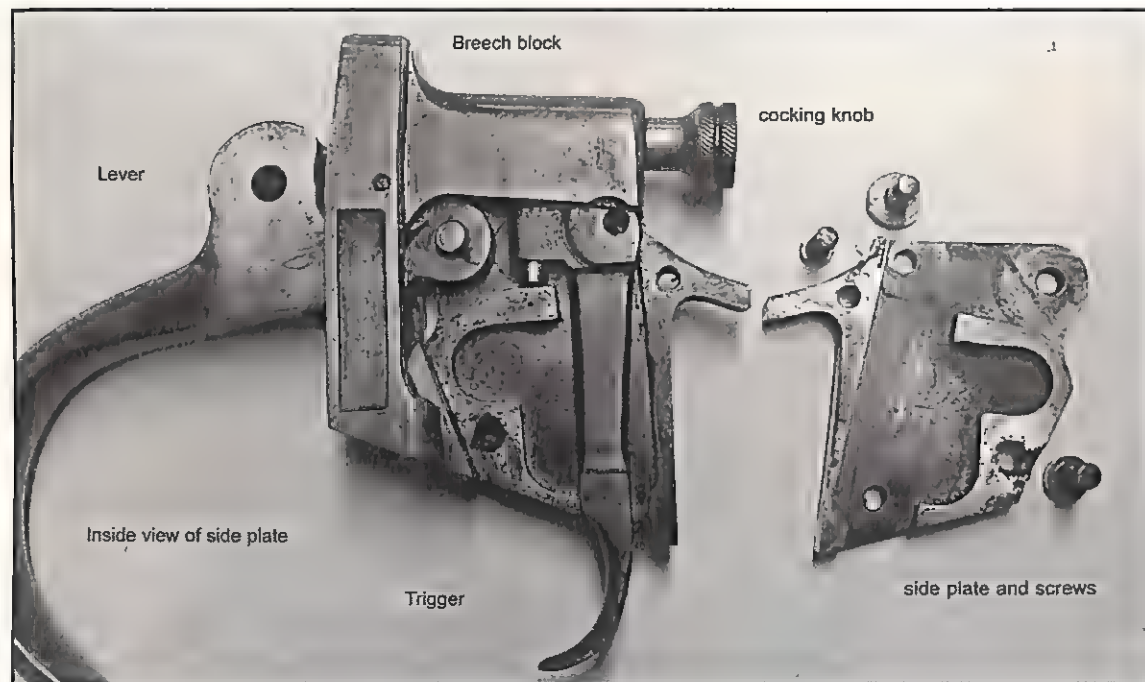


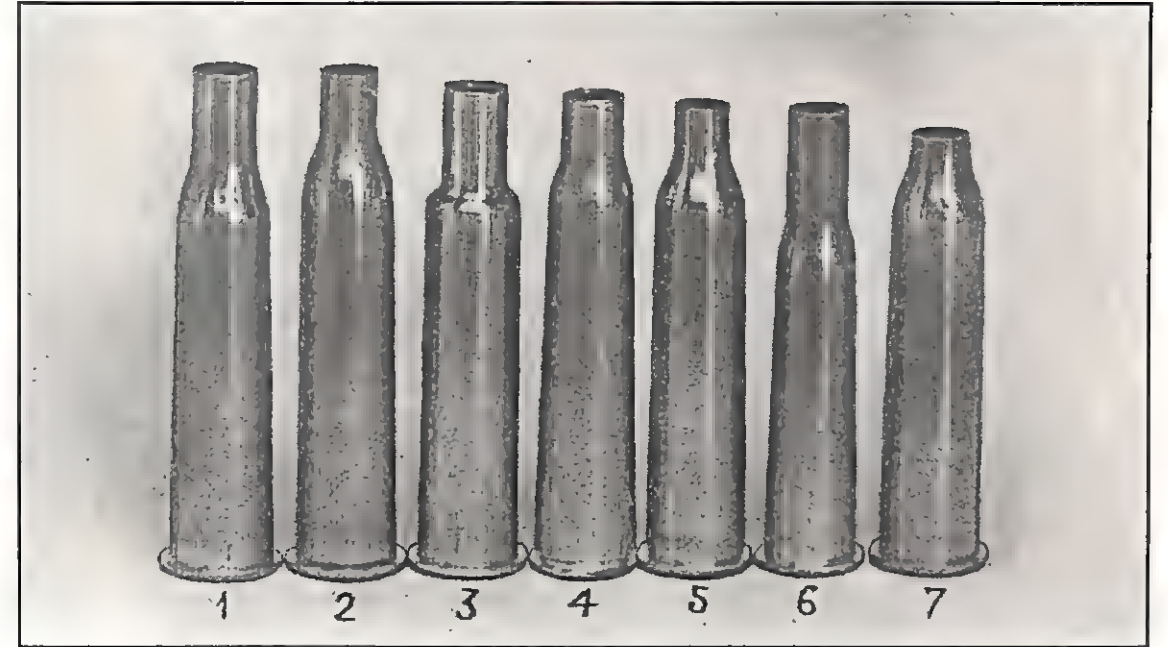
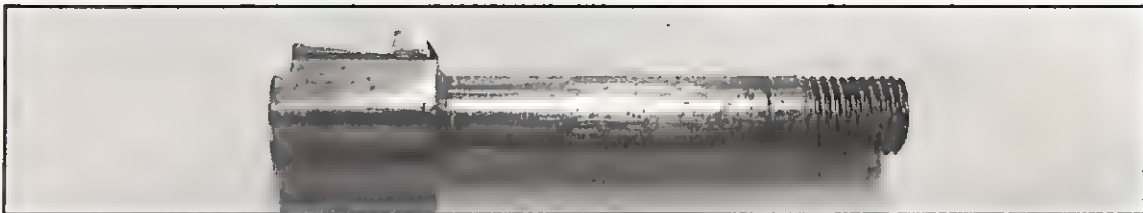
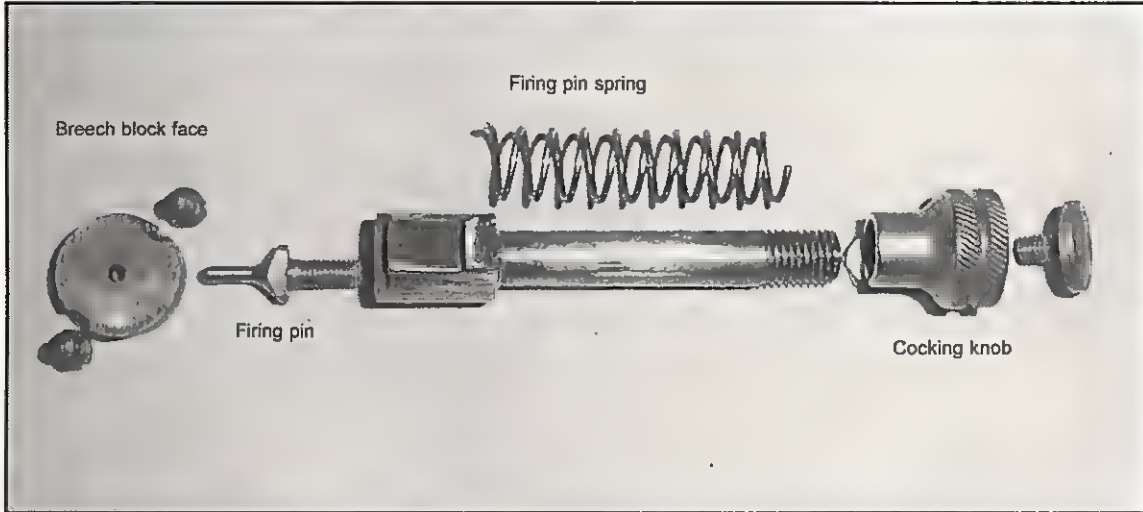
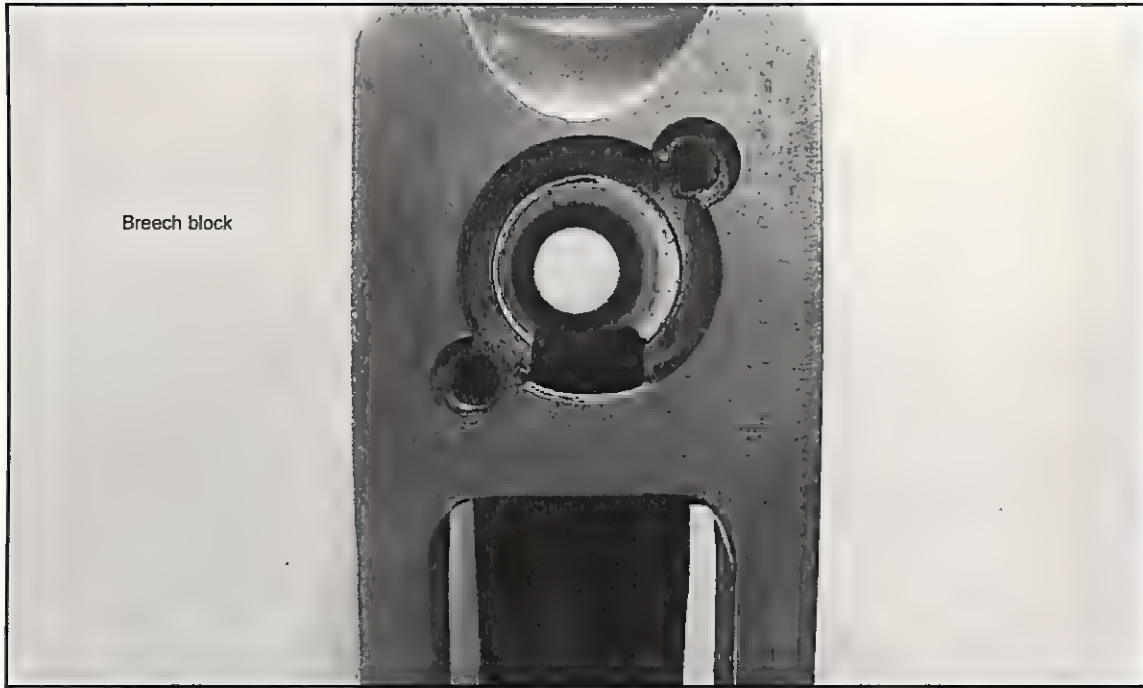


A. O. Niedner .25 caliber Lever Bolt Action Rifle

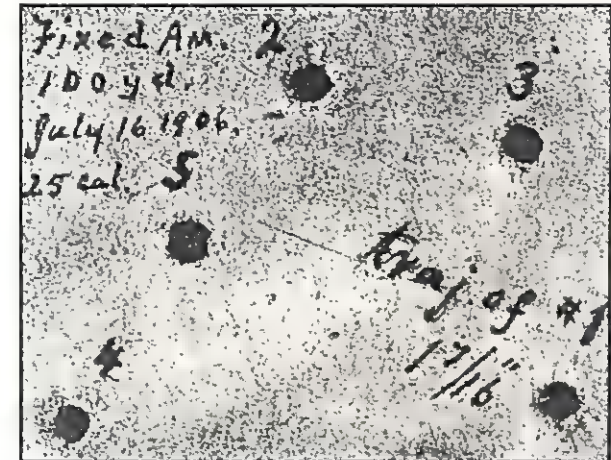
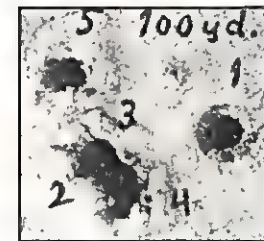
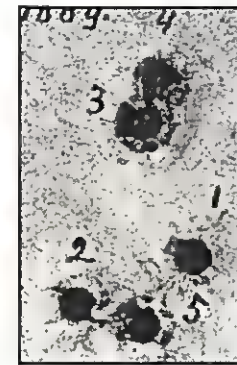
Weight = 8 1/4 lbs.
Overall length = 43 1/2 inches.
Barrel length = 28 inches tapered round muzzle, 3/4 inches to 1 1/4 inches at breech.
Scope mounts, slightly tapered.
Back mount, length 1 15/32 inches long. Rear is 25/32 inches, wide, Front is 27/32 inches wide. Front munt is 1 1/4 inches long, Rear is 11/16 inches wide, Front is 23/32 inches wide.



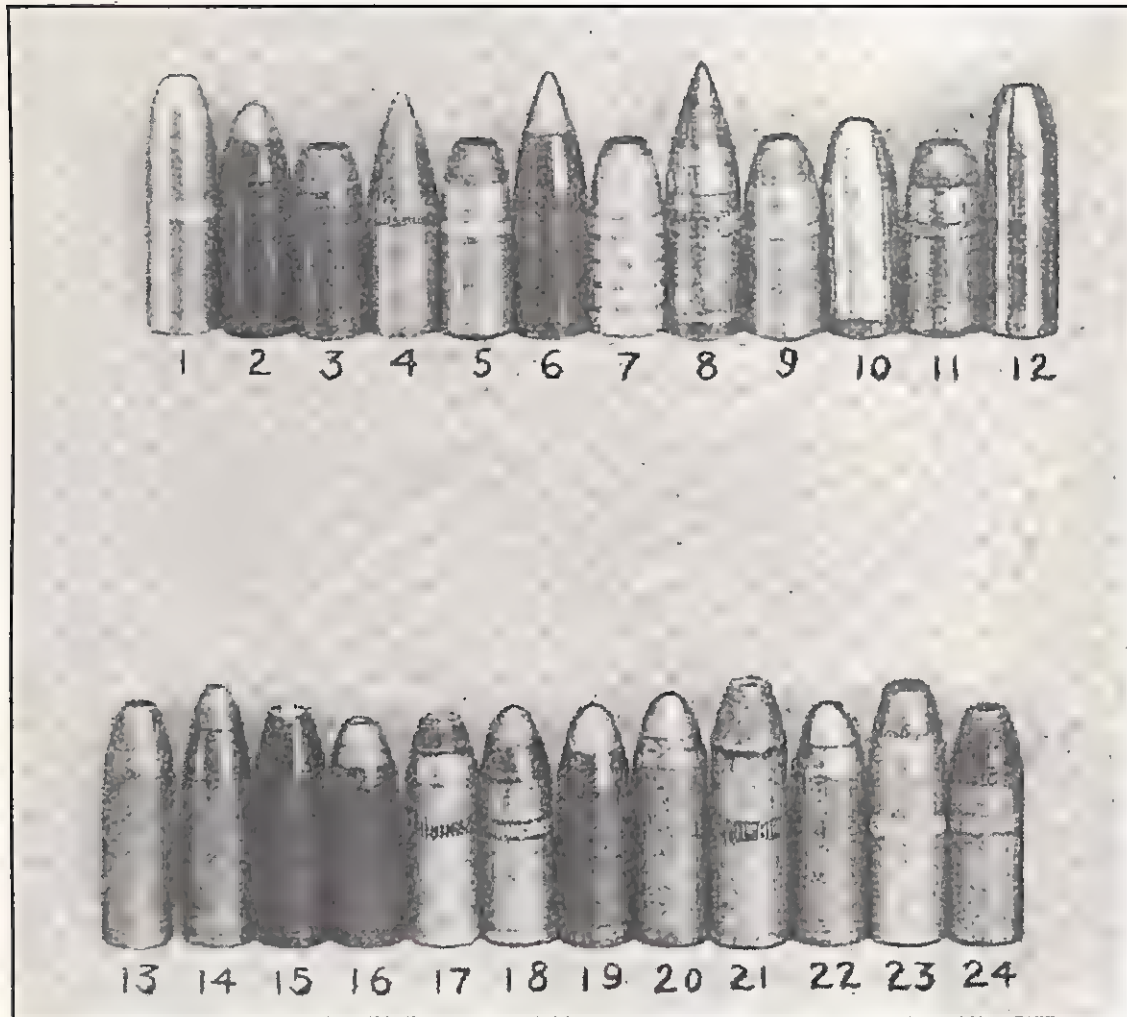




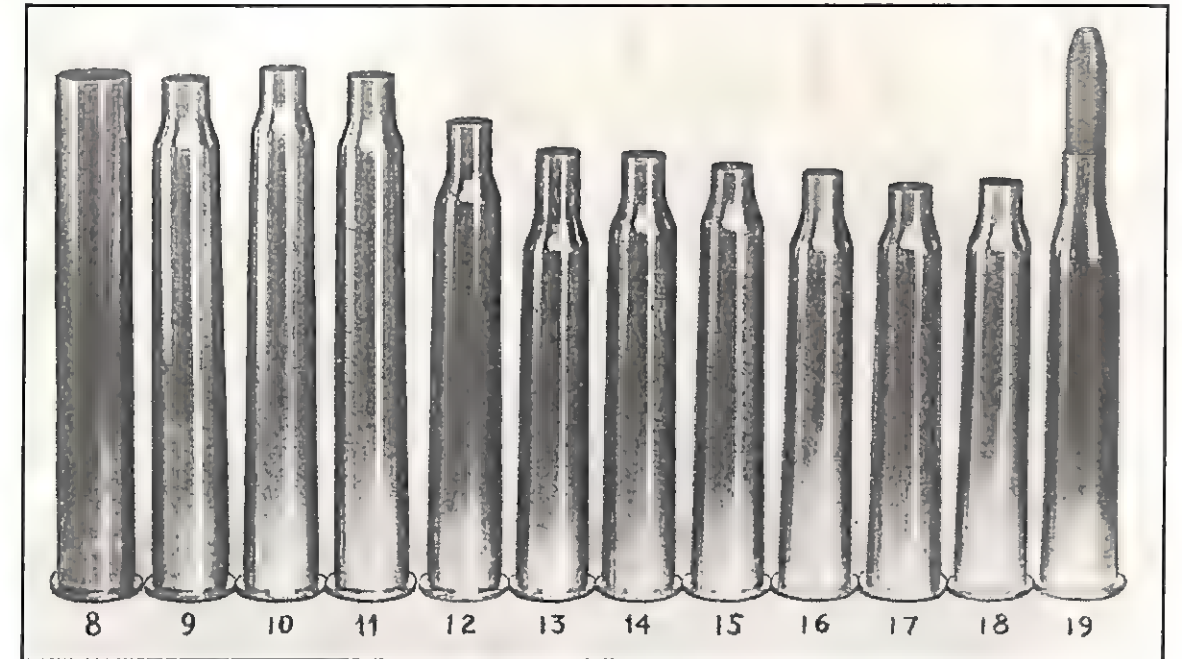
.25 cal. Krag shells, made and tested out at target by Dr. Mann between 1904 and 1911, before the advent of the .25-60 shell in 1912.



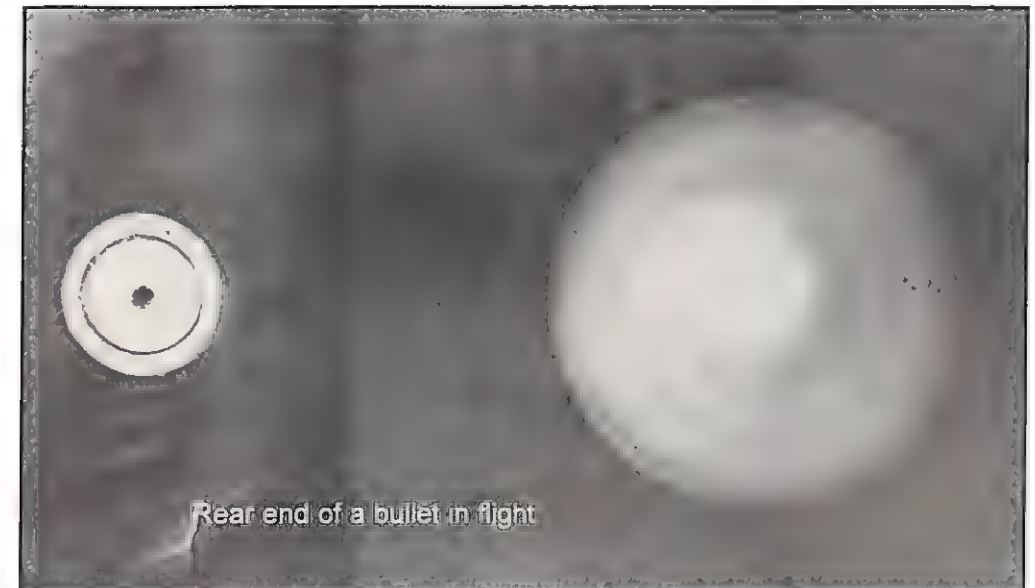
Targets shot at 100 yards.



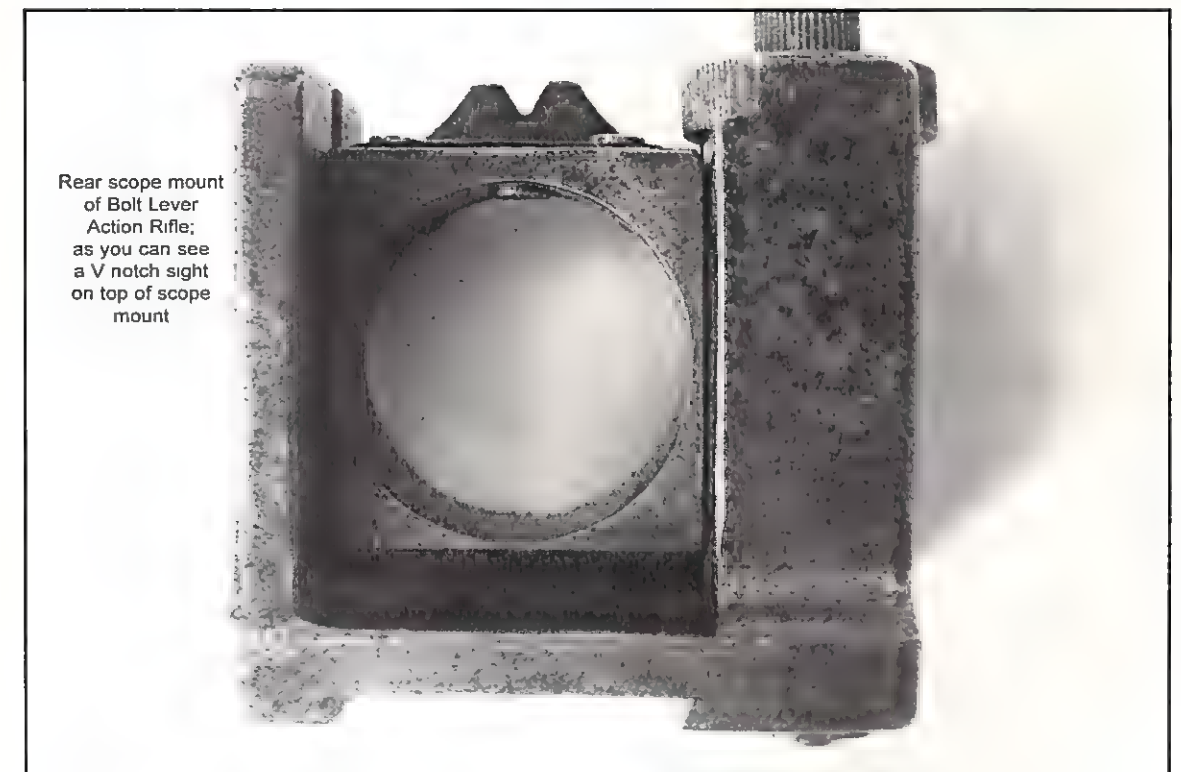
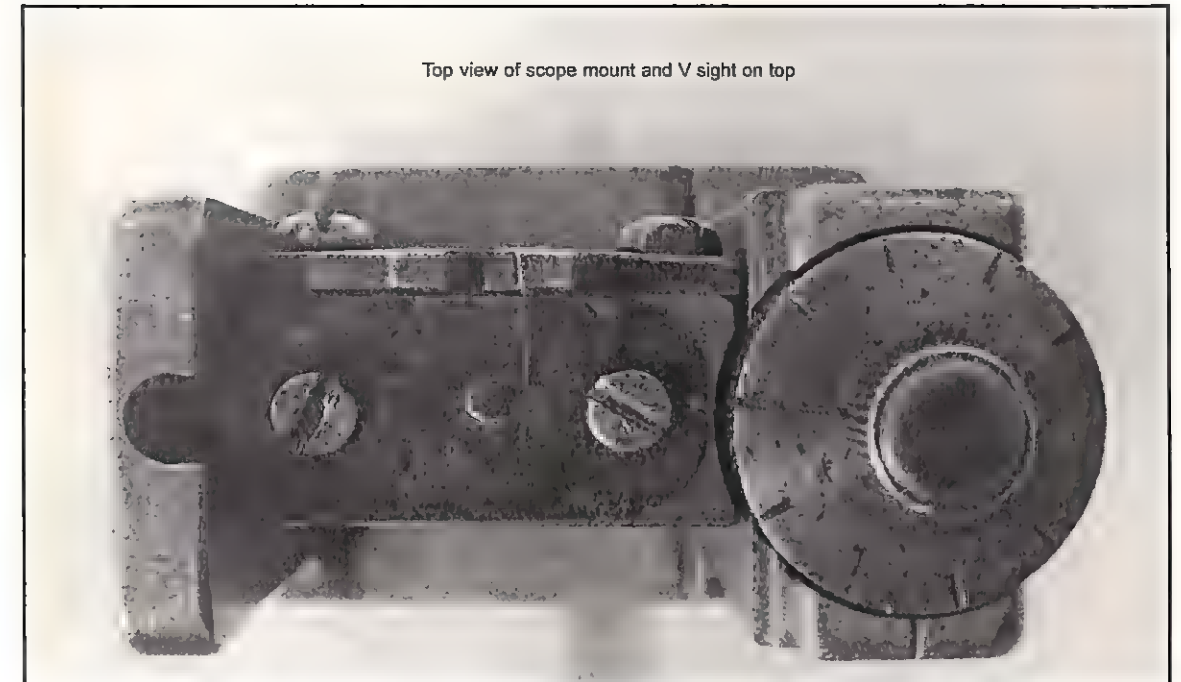
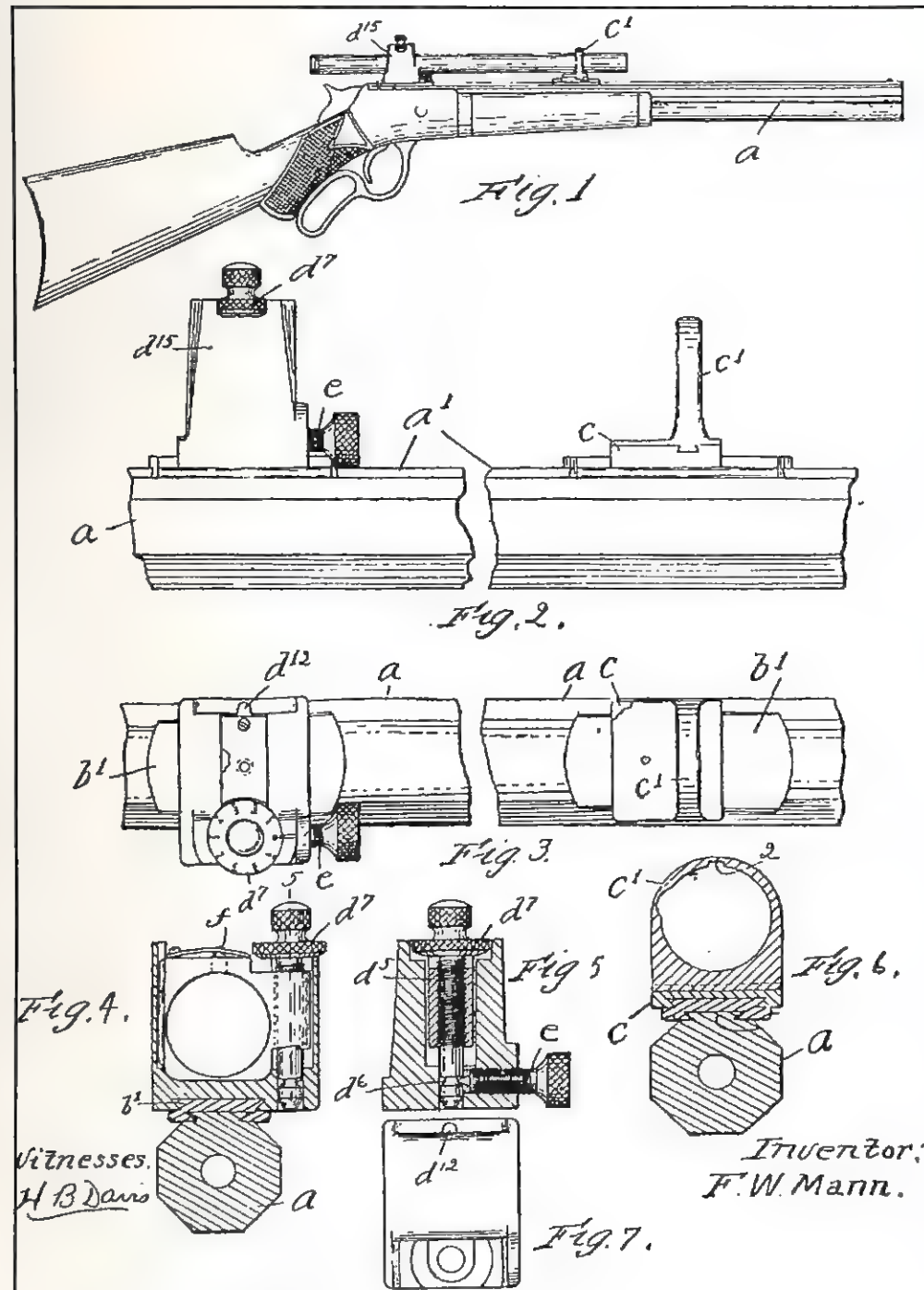
Some of the .25 cal. bullets tested out by Dr. Mann for accuracy from his V rest, between 1904 and 1912.

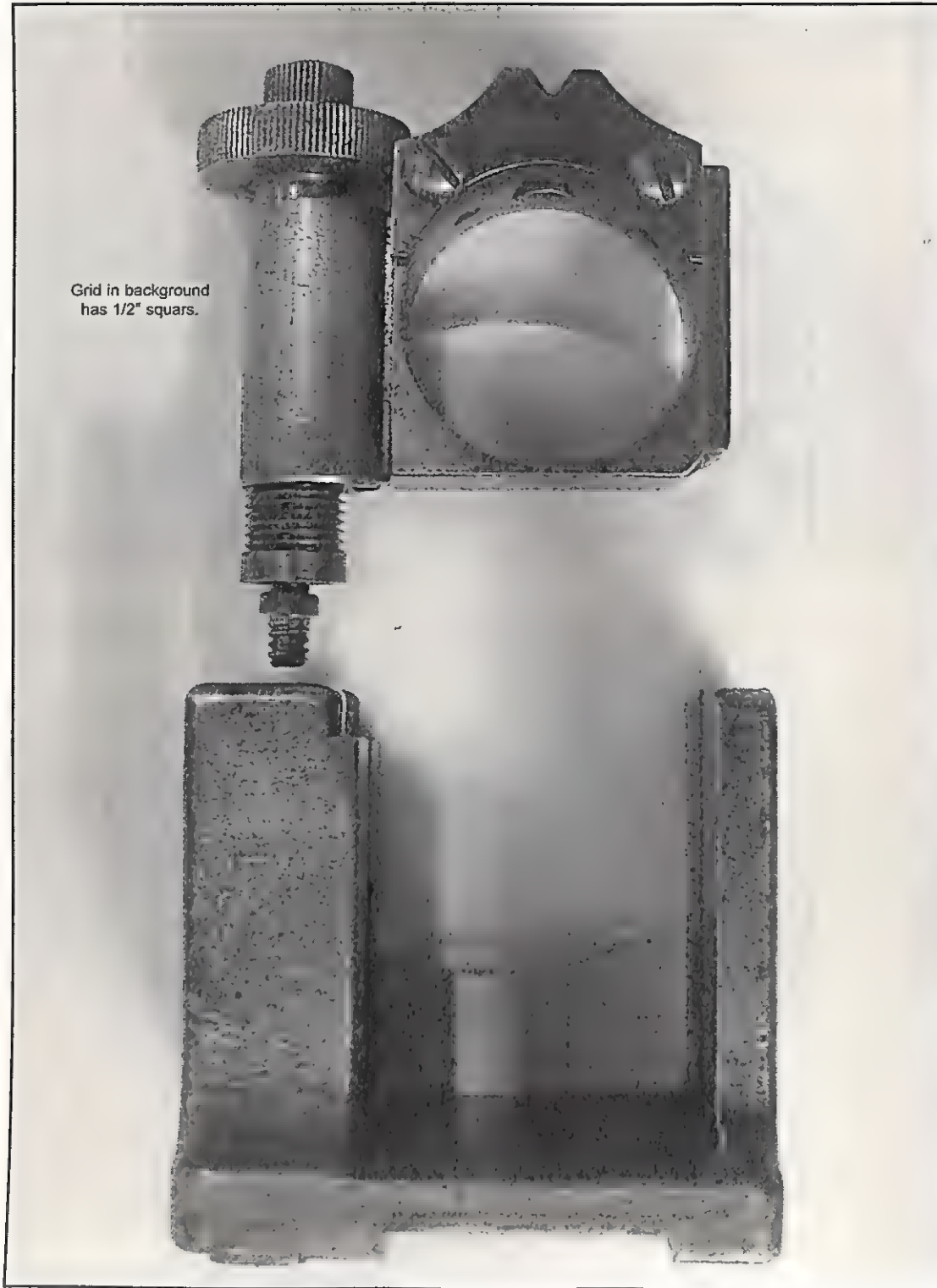


The development of Dr. Mann's .25-60 shell. They were all drawn from shell No. 8 which was produced at the Frankfort Arsenal for Dr. Mann. The body taper of No. 8 is .015" to the inch, of No. 10, .025"; and of No. 11, .021" or .25" to the foot. This latter taper of .25" was chosen and a variation in chamber pressures led to the shape of shoulder in shell No. 19. One year's shooting with, this ammunition only shows the correct design of shell No. 19.



Telescope Mounts





Telescope Mounts; An Invention

Story from the 1909 Bullet's Flight. As early as 1894, while pretty thoroughly absorbed in rifle and ammunition experiments, hunting from the cause of x-error, the necessity for reliable and easily adjustable telescope mountings presented itself. The first special Stevens rifle with its telescope mounts of that year must be obtained which should be accurate and practical. In looking about for an idea it was found that neighbor Jewell, an old-time long-range man, was right in saying that the telescope mounts then on the market were defective in various ways. The one in hand would allow the scope to take two separate positions in the front ring, and the clamping device at rear mount was so well made for security that it would retain the scope tube in a bent position after slight pressure upon it.

As a general rule inventors and manufacturers are not very energetic in producing articles for which there is no demand, particularly is this the case with manufacturers; and after persistent hunting the conviction was forced that, as a rule, riflemen were expecting nothing better. Old customs retain a marked influence, many times unwittingly impeding the progress of even thinking men.

To adjust the scope elevation for a fine rifle by a scale reading 20th is of an inch was an anomaly, and no system of mounts had been devised which, if accidentally or intentionally moved, could be replaced in their old position; the rifleman could determine whether the sights had been moved or not only by the tedious process of going to the range and targeting up the barrel anew, and this must be done on an exceptionally quiet day. If his elevation for 200 yards was approximately found, no amount of persuasion would induce a change to 100 yards; the process was too tedious and troublesome.

It was not necessary to lay awake nights to decide requirements that a proper scope mount should meet and fill, but it took years, rejecting 10 different mounts and accessories, before the eleventh one was made to "fill the bill," and this has been patented just for fun, so any one is at liberty to use any part of it.

A visit of three days was made to the largest collection of firearms in the country, and extended examination indicated that mountings of telescope sights were considered of least importance of anything about the rifle. One had patterned after another for years, and a hundred-dollar rifle was fitted with mountings that "looked like 30 cents." (Fig. 1) Page 39 gives the first and ninth attempt, the ninth model shown at the left never being completed. With the exception of this, however, all the 11 models were finished and used on various barrels until a better one took their place.

The first attempt was to so construct the mounts that, unless broken, the rifleman could determine whether the scope had been moved from its position or not; the next was to construct so that after an alteration of any kind, by any one, except breakage, it could be rest to its old position with certainty and immediately, although .002-inch variation at mount means 1 1/2 inches at 200 yards with a 19-inch telescope.

These fine fractions of necessity compared with the coarse ones of the rifleman's constant associations account for his shooting day after day at a fixed and unalterable distance, and when this becomes tiresome, he stays at home.

There was not much difficulty in meeting most of the requirements of a proper mount, and the eleventh model, (shown in Fig. 2 on page 39) was the one finally patented. Its successful attachment to the barrel, however, for a long time seemed impossible, though the different models made and thrown aside were mainly to make these mounts more

artistic in mechanical construction and more rigid. In the left corner may be seen the dovetail block marked *b'* in the patent drawing (page 30), which being driven on to the longitudinal dovetail, provided on the barrel, becomes immovable in the correct position for receiving the removable rear mount shown as the central figure of the cut. The block at the right is for the removable front mount which contains the windage, but this mount, after being once set and pinned is only correct for its particular barrel. (Fig. 3) represents a block made to be firmly sold to the barrel when no dovetail has been cut in it by the manufacturer, simply taking the place of the longitudinal dovetail, particularly when a round barrel is to be utilized. This is drawn and included in the patent.

The drawings given on plate 10, of the eleventh mount, are a reproduction from the U.S. Patent, issued Sept. 11, 1896. The writer has built jigs and tools, and manufactured 12 for his own convenience, and four years of constant use has not suggested any alterations. They are built of cast steel, solid and heavy, so solid and heavy that most riflemen to whom they have been shown prefer the good old-time mountings when a telescope rifle should have been kept in a glass case when it would not be exposed to the wind.

The drawing also show the utility of the dovetail rib running full length on top of the barrel for receiving these mounts, which has been repeatedly referred to in connection with various experimental barrels. The novel features of this mount, in a nutshell, are as follows.

Excessive rigidity, and by its certainty of position is not susceptible to jars or shocks; easy removal of the telescope from mount, and also the replacement of the same to its correct position with certainty; the transference of the mount from one rifle to another without tools, and in every instance the mount will find positively the same position on the respective barrels as before, and because the mount has but one lateral position and cannot be replaced in any other than this position, no sighting up is required for either rifle after sighting up of the front mount has been once performed; the mounts can be attached at any position, or changed to any position on the rifle barrel between the muzzle and the breech without disfigurement of the barrel, because there are no slots, screw holes, solder, or rings which determine its position, thus allowing the use of a telescope of any desired length; a micrometer elevating screw with a powerful clamping device for holding said screw in whatever position it may be set, and a large graduated head on the elevating screw, and means for determining the position of said head on the elevating screw whereby manipulation of the screw is convenient and its reading distinct.

The longitudinal dovetail running the entire length of the barrel has solved the hitherto insurmountable difficulty of constructing a firm and reliable telescope mount. After the rifle is accurately sighted this micrometer mount will produce a range finder with the rifle. An unknown distance is found by reading the elevation after it has, by test, been set for the unknown distance, by having the bullet hit the object aimed at.

At the end of four years the old timer, Nathaniel Jewell, of Milford, who first pointed out the defects of commercial mounts, had educated the clubmen at the Milford range in the use of telescopes and how to remedy their defects, so none of them would appear any more at this range with open or peep sights.

Quite a correspondence was exchanged between E. A. Leopold and the writer relating to telescope mounts, and the adaptation of target rifle to field work, which is fairly well set forth in a single one of the many letters passed.

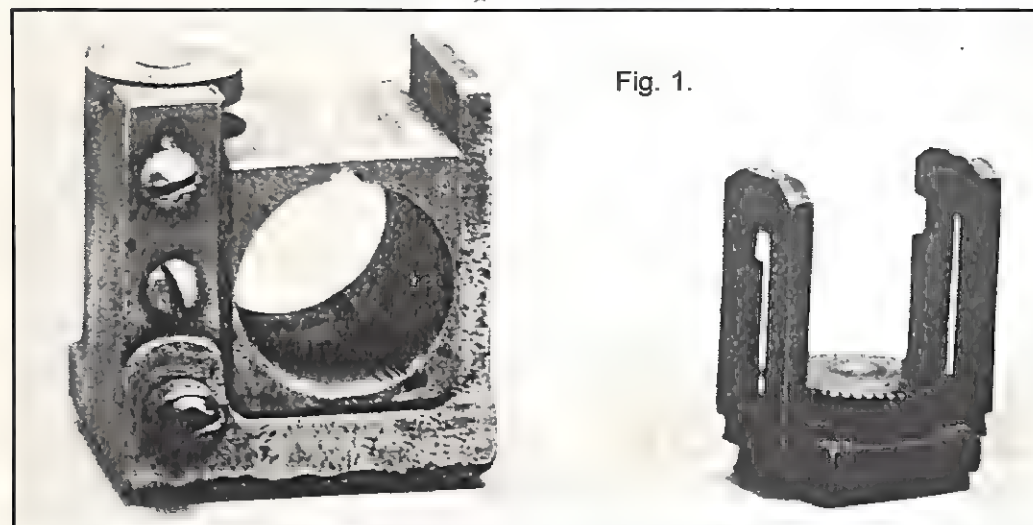


Fig. 1.

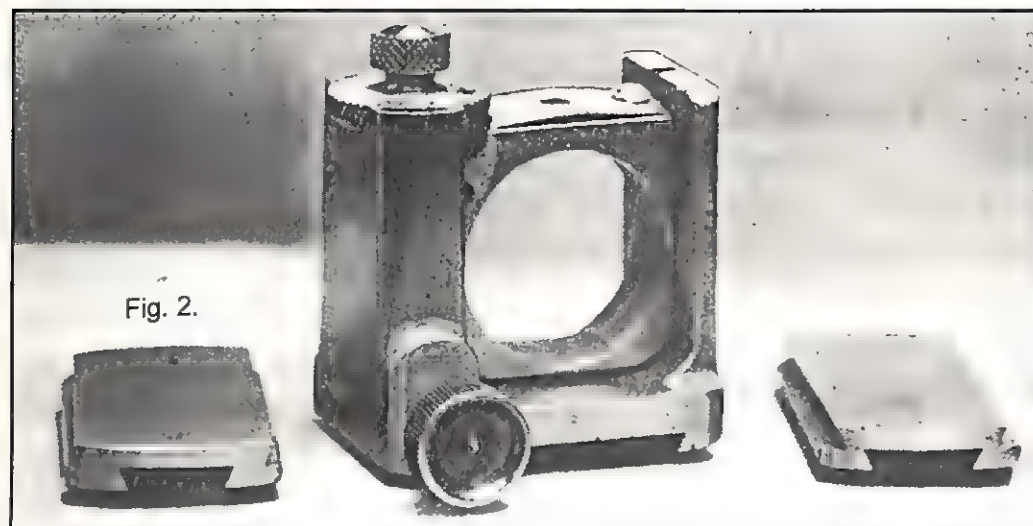


Fig. 2.

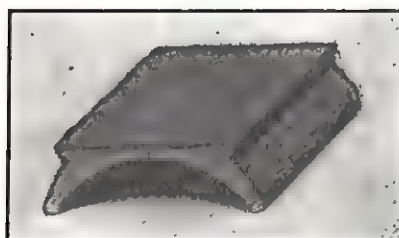
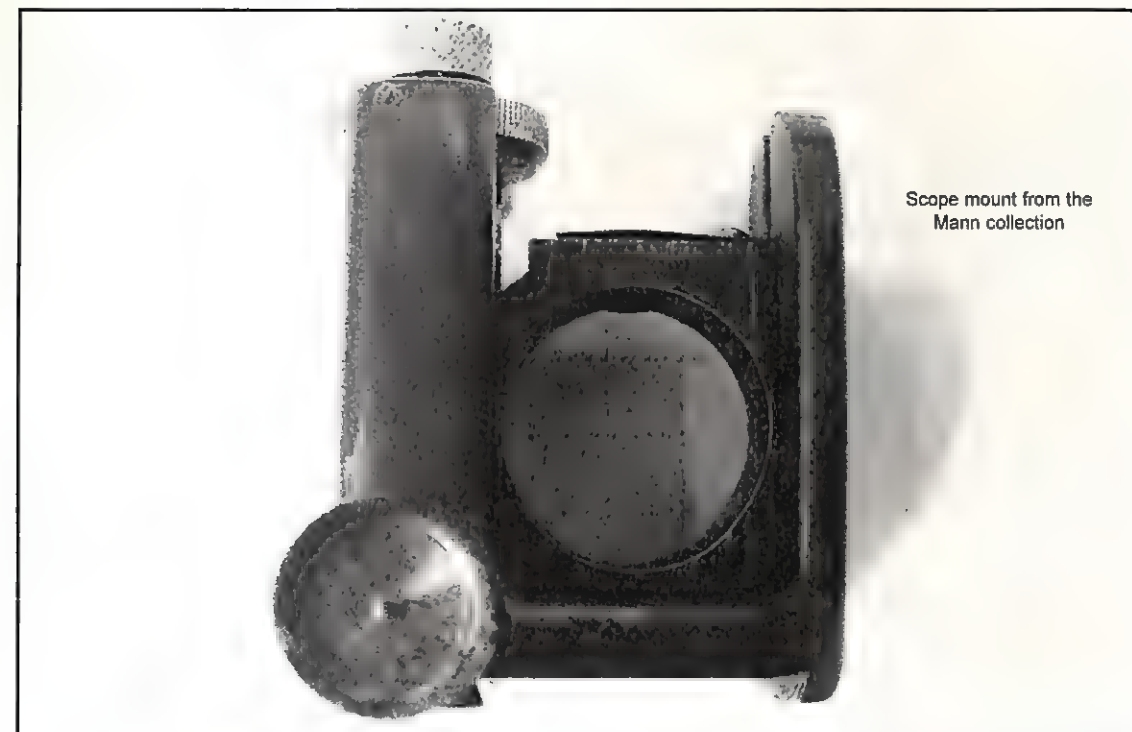
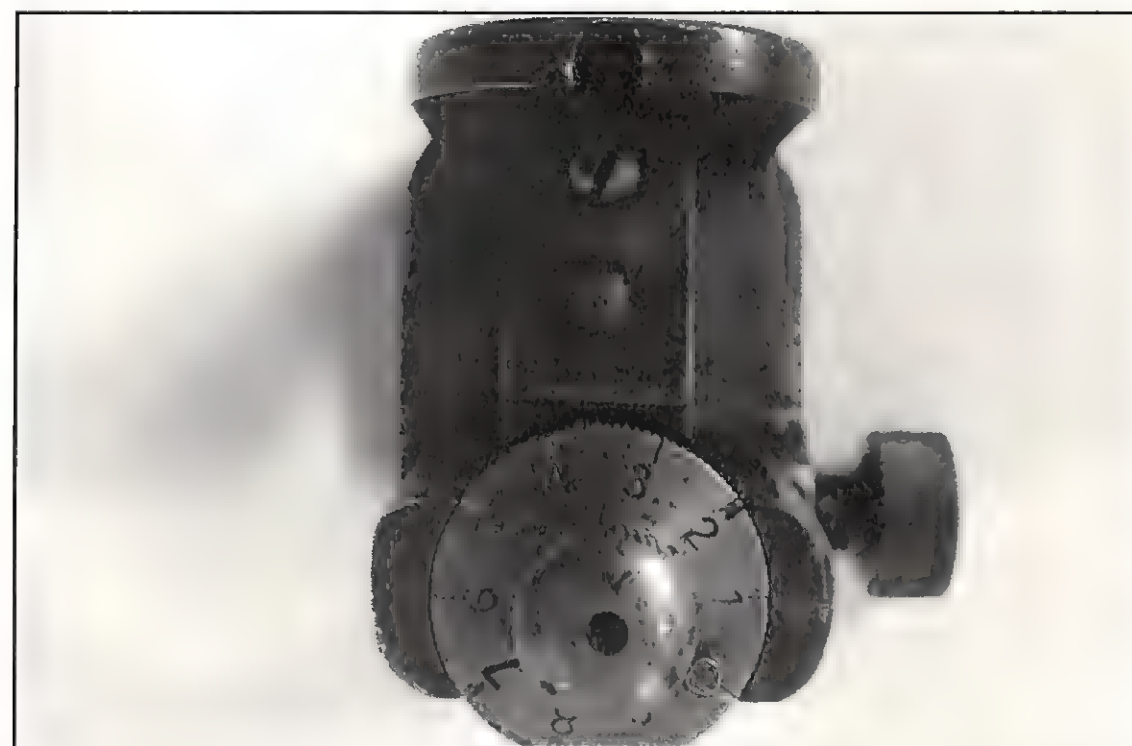


Fig. 3.

Scope mount from the
Mann collection

The Dr. F. W. Mann Ballard Rifle

Weight = 5 3/4 lbs.

Overall length = 43"

Barrel length = 27 7/8"

Tapered, round, muzzle 19/32" D., breech 29/32" D.

Scope blocks - Tapered.

Rear = 13/16" at front, 25/32" rear, 1 11/16" long.

Front = 11/32" at front, 25/64" rear 2 1/16" long.

Receiver No. 30065 end of action near tang, and bottom of receiver forward of lever.

Bottom of barrel near receiver, 12 with forend screw hole between them, over 1160.

On rear scope mount, 28 1905.

Lots of drill holes in butt plate and lever and action to lighten the rifle.

Extractor for a 38-55 modified for .28 caliber cartridge case.

Top of barrel forward of scope mount "Stevens - Pope J. Stevens Arms Co., Chicopee Falls, Mass".

Rifling approximately 1 turn in 20", CCW.



The story of the Ballard Rifle is from *The Bullets' Flight* of 1909 By Dr. F. W. Mann
The 1905 .28-8, Pope Barrel

The recoil from nine grains sharpshooter powder was so slight, and previous barrels so heavy for chuck hunting, these barrels were reduced to pipestem proportions, of which the military rifle is a sample.

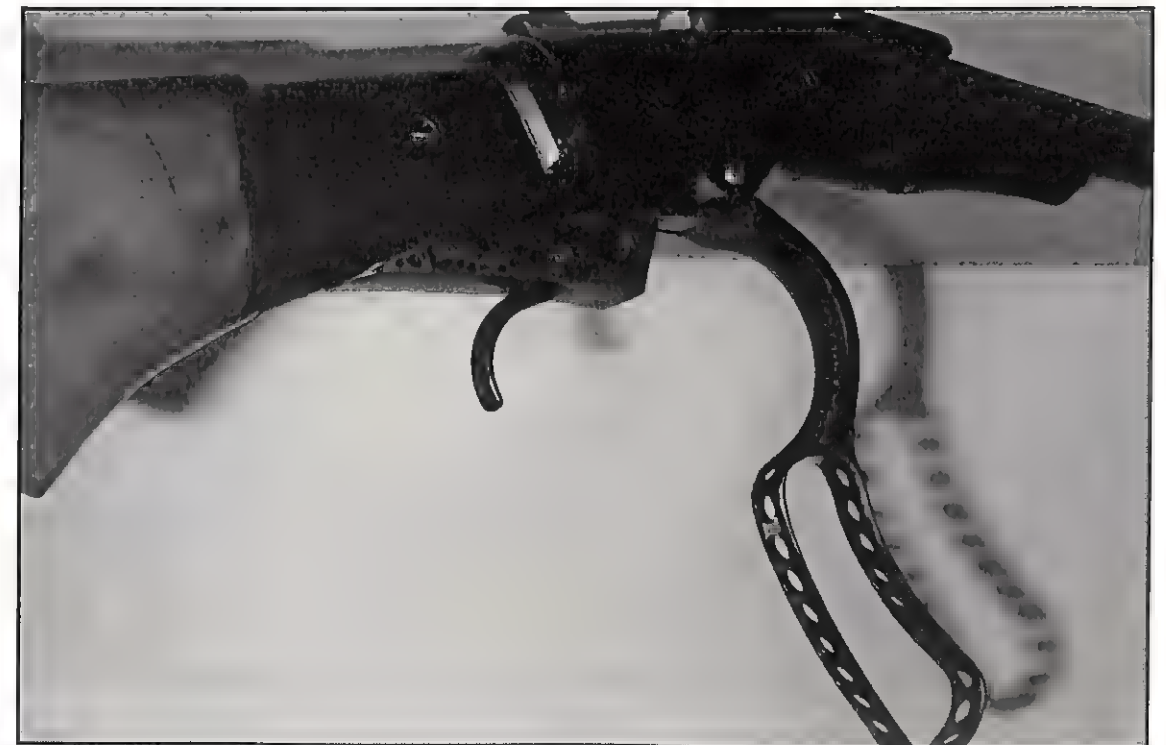
To test a theoretical idea, the rifling was made only .0015 inch deep, half the usual depth, and shell was reduced still further by 1/16 inch, making shell only 1 3/8 inches long; filled with "sharpshooter" powder to oleo wad, it was found to contain 11 1/2 grains. This reduction of air space was made, hoping to use the 2 1/2 U. M. C. black powder primer in place of the 7 1/2 smokeless that so quickly destroyed two barrels.

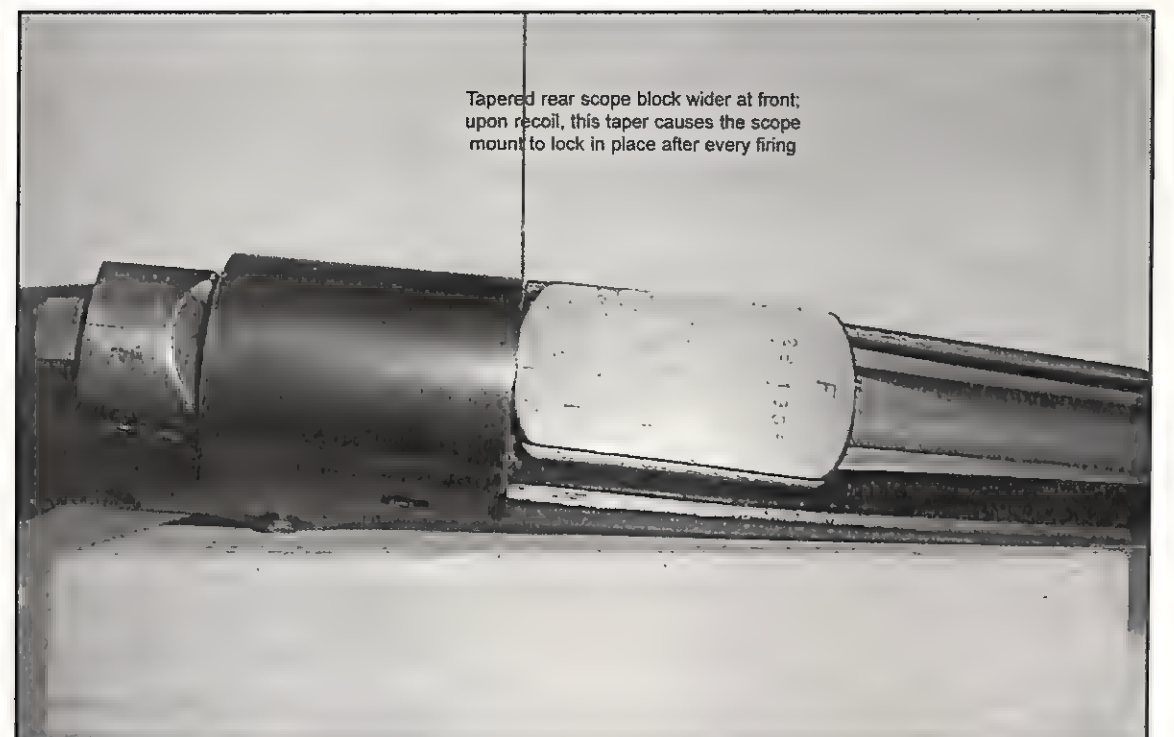
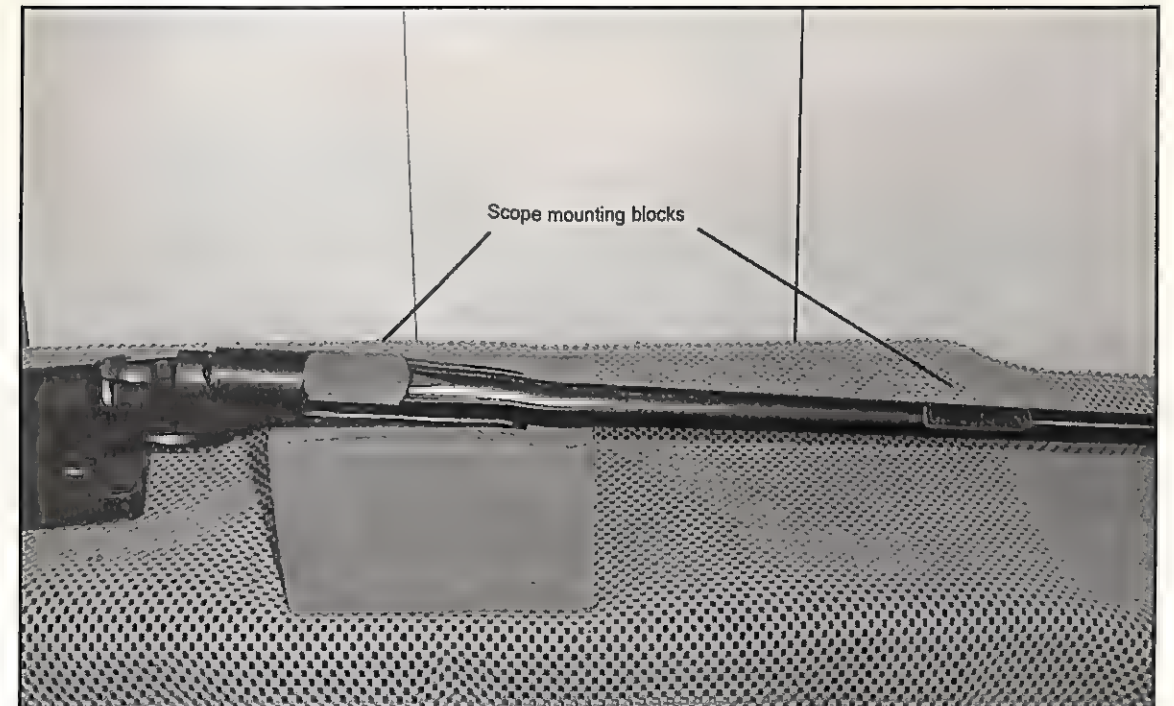
All these changes were enough to destroy the value of any barrel, and so they did, and they made it necessary to reduce the charge from nine grains, with its 1/4-inch space, to eight grain with 3/8-inch space, altogether against previous plans. The nine grains opened nearly all the primer pockets, and the pipestem barrel jumped so much when discharged that all hopes of accuracy, when used at muzzle and shoulder rest, were abandoned.

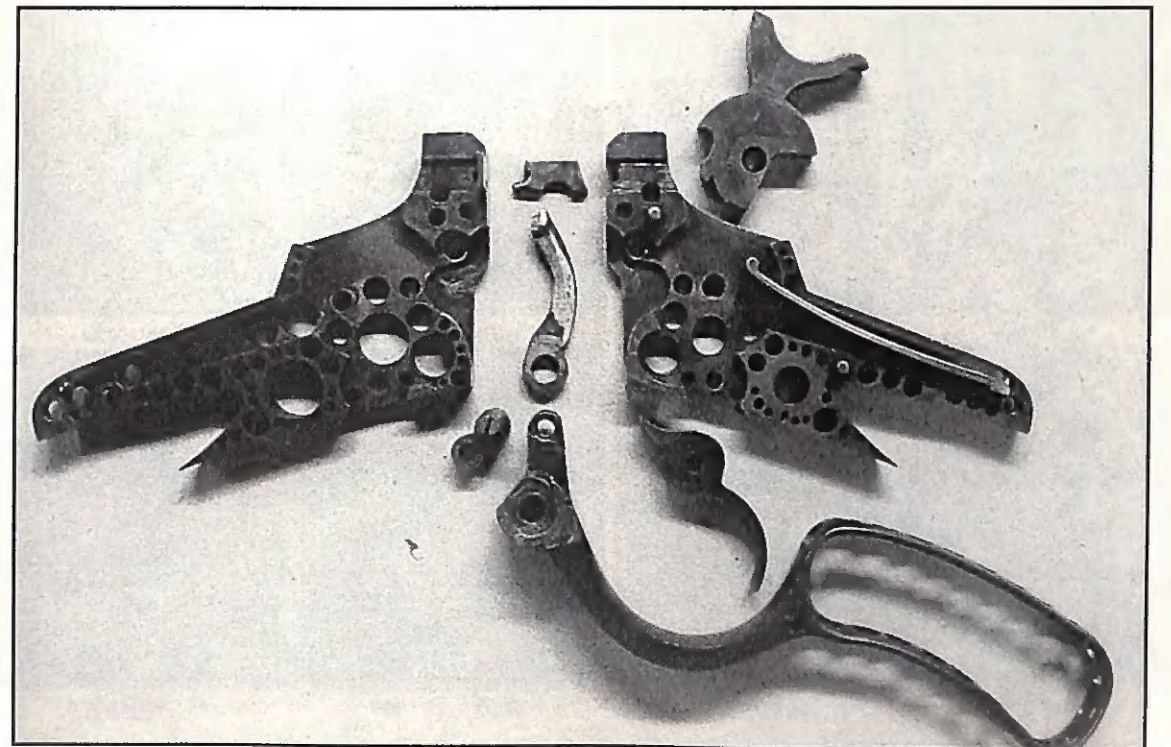
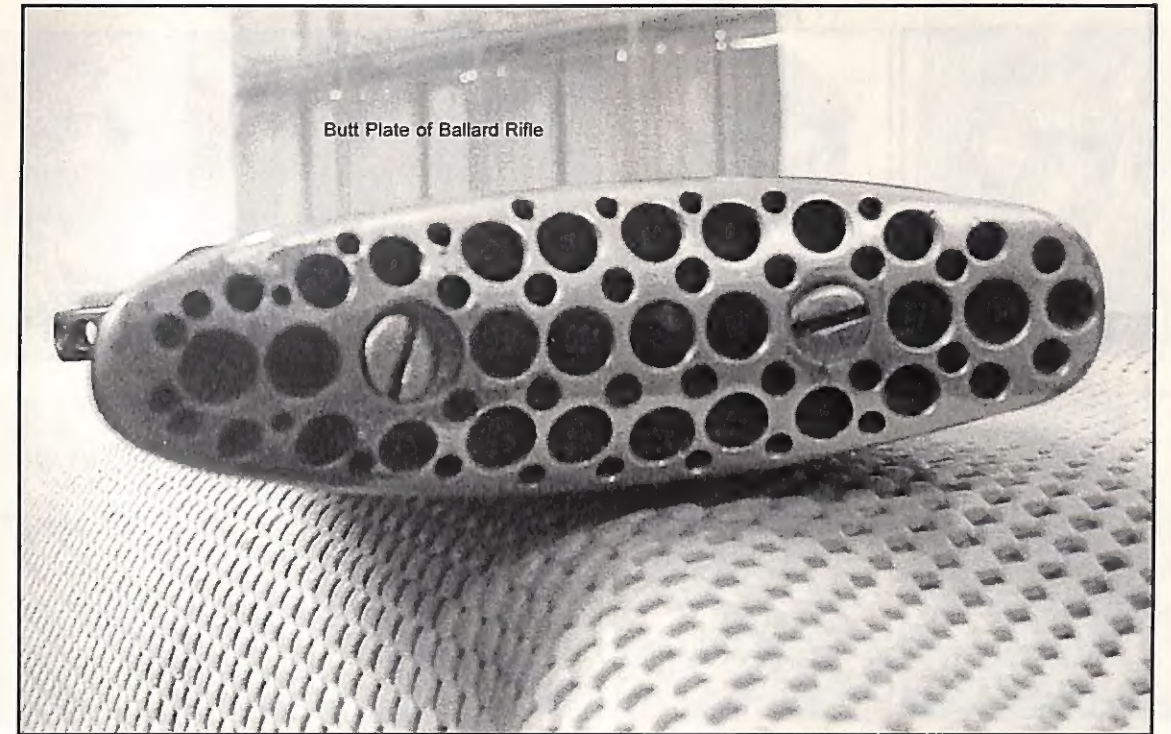
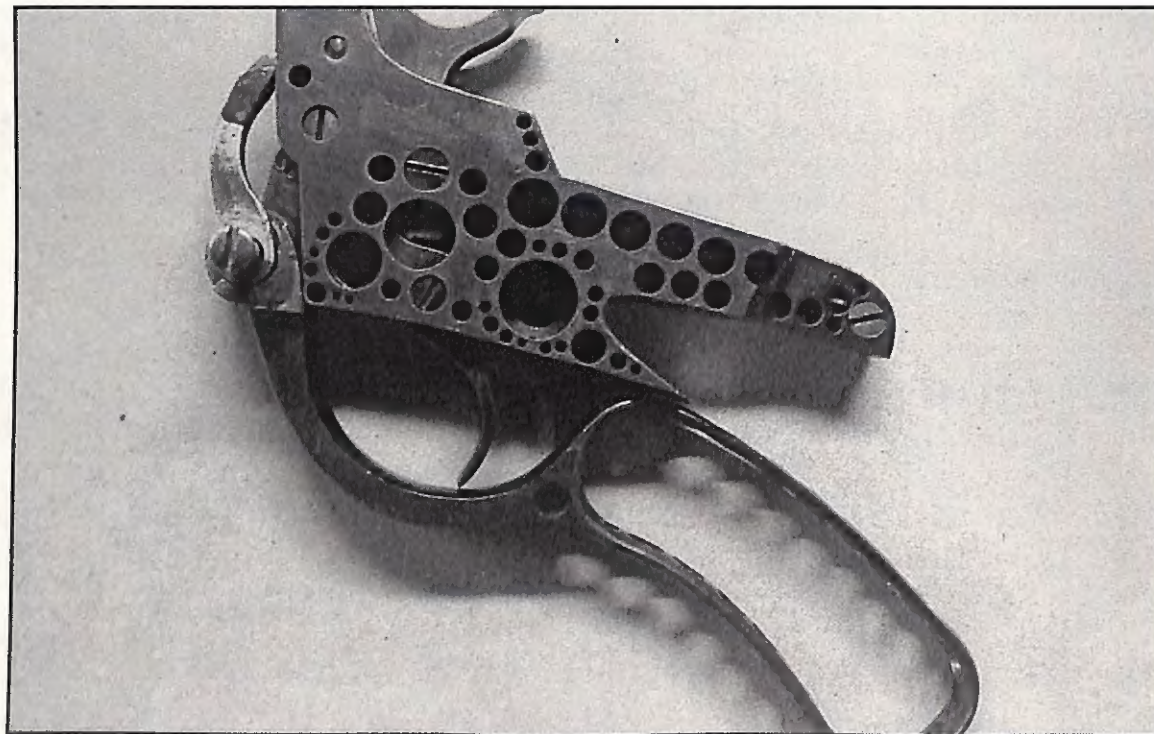
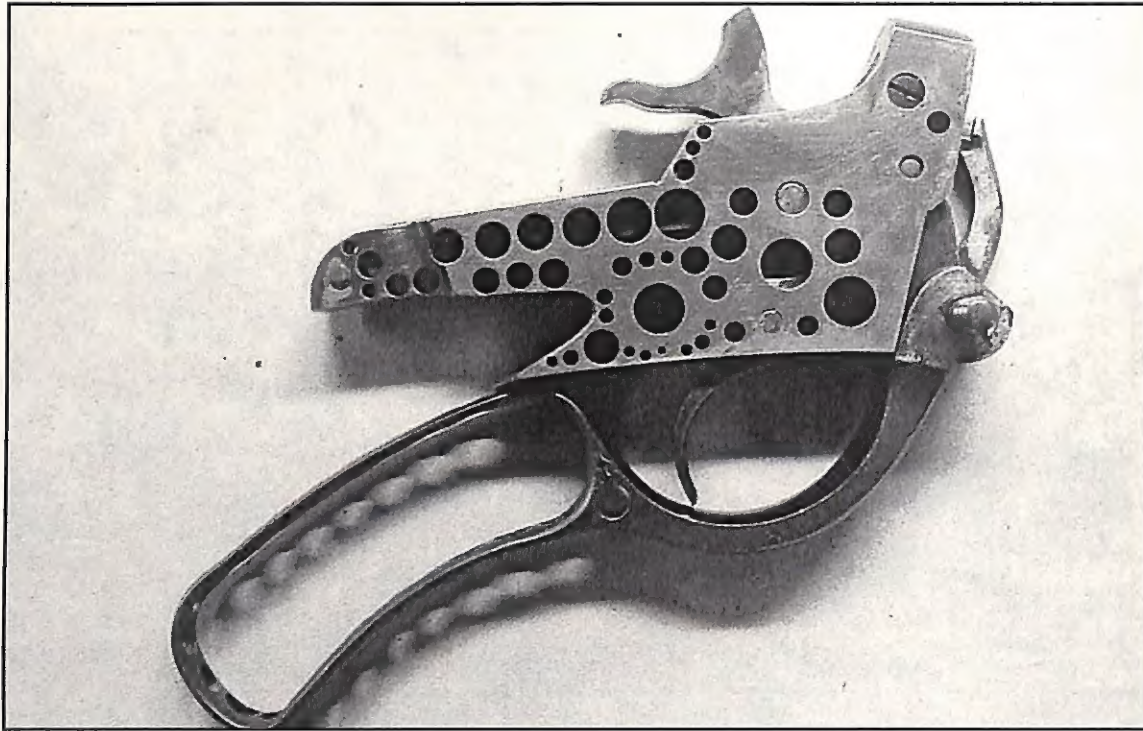
One of the best Ballard actions attainable was annealed and reduced in weight for this barrel, the machinist working three weeks drilling and filing and finishing. Every possible part was reduced where metal could be removed, and there was some of it. Unknowingly, he cut the metal away where it ought not to have been, and the fifth nine-grain charge from it set the breech block back into the receiver, making of this three week's labor and highly prized action an attic treasure.

Later, a 7/8-inch steel tube was slipped over this pipestem barrel and filled with melted tin, and after cutting a thread on the barrel at its muzzle a nut was screwed tightly down, holding tin and steel tube firmly in place. This barrel was fitted to another Ballard action, sight blocks, and telescope mounts, after which it shot good groups; having been mislaid, however, none of these test can be found.

After finally removing false tube and repairing the spoiled Ballard action with a well-fitted steel band, this made the finest show of any rifle in the rack.







Walnut Hill Members



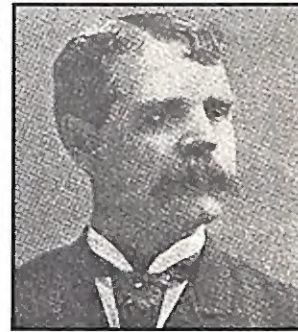
J. B. Fellows



G. R. Russell



S. E. Briggs



O. M. Jewell



Orrin R. Dickey



F. J. Rabbeth



H. M. Pope



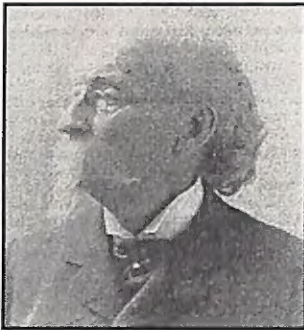
Adolph Strecker



A. H. Pape



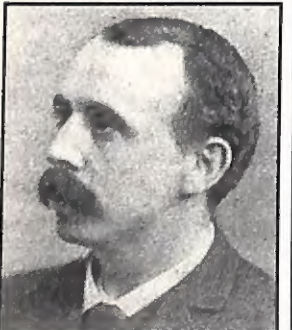
D. L. F. Chase



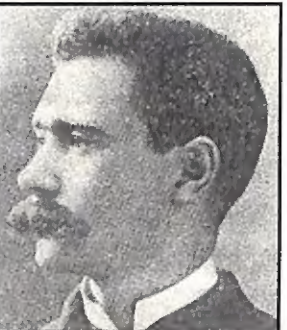
Dr. S. A. Skinner



G. R. Harris



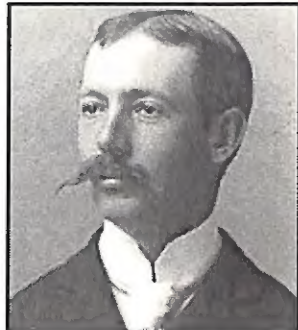
G. H. Wentworth



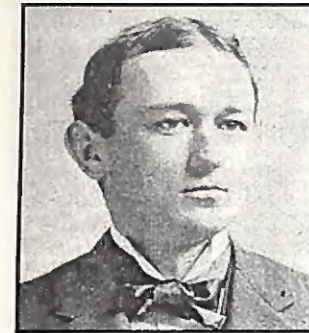
J. E. Kelley



Eugene E. Patridge



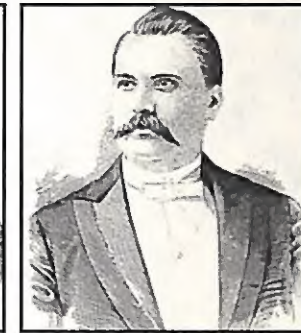
N. C. Nash 2nd



F. B. Crownshield



Mr. F. E. Bennett



Mr. W. W. Bennett



Bill Mead



Thomas Anderton



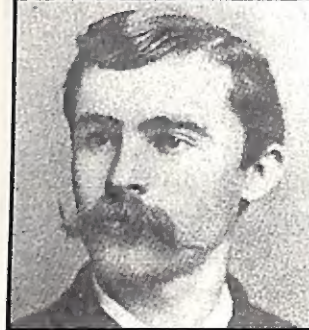
F. W. Mann



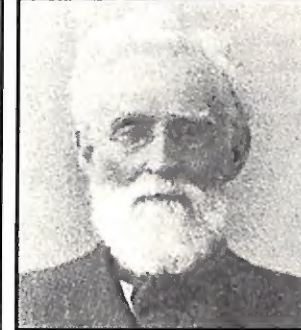
H. T. Rockwell



E. P. Matson



H. L. Willard



Salem Wilder



W. M. Farrow



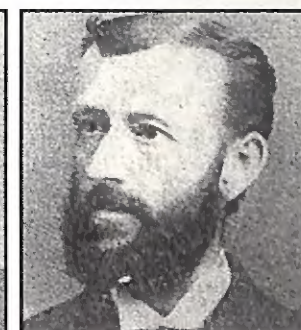
James N. Frye



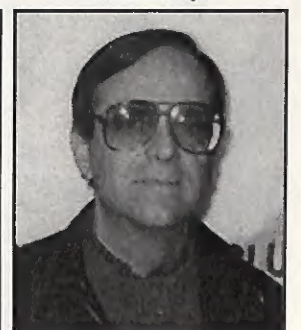
J. Busfield



N. S. Brockway



E. A. Leopold



John Bucci



Robert C. Lundstrom



C. C. Foster



Jim Smith



Ed George



Werner Eckstein



Lynne Sibo



Robert Wright



Larry Hartnett



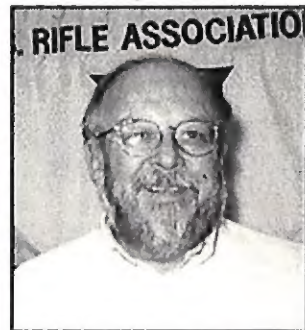
Don Ouellette



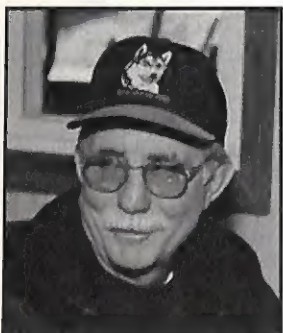
Fred M. Fazio



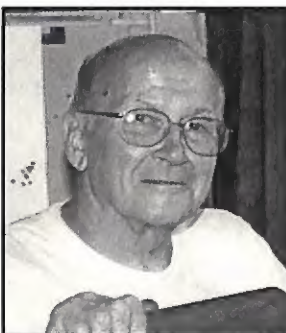
Wilbert Jerauld



Bill Medinger



Mike Dalelio



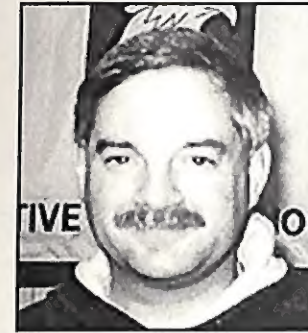
Richard Stanton



Robert Soper



Tom Mearls



Robert Collins



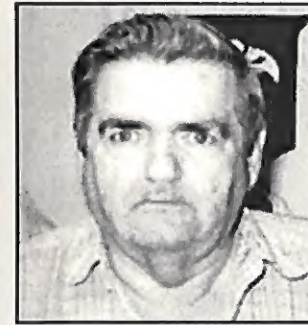
Dr. H. A. Baker



A. O. Niedner



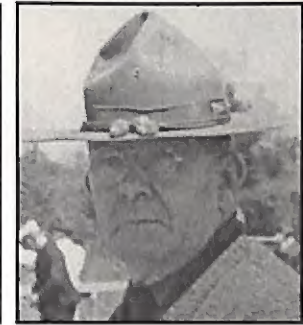
Maj. Sharkley



Robert Rogers



David Suied



Duncan Stewart



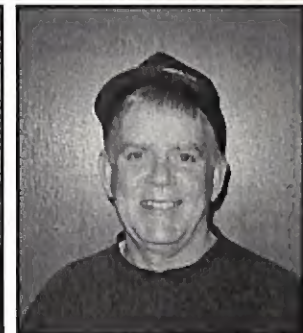
Sal Iannuzzi



Helen Coyne



John Alconada



John Coyne



Dan Driscoll



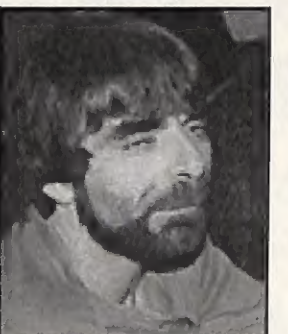
Dorothy Knight



Nackey Loeb



Richard Boyle



Joe DePalma

Tales of Walnut Hill

April 10, 2003



A Lady and Her Shotgun ~ By Robert R. Summa

A day in the life of a Sporting Clays shooter. Lynne Sibo steps up to the line. She is a gracious lady. Her gold hair flows in the wind as the sun reflects her beauty. She has a gift for the game, a feel for the shotgun, an instinctive mind, and total confidence. "Let the games begin," she shouts. "Let's see the birds fly into the light blue sky and watch the rabbits run in the green grass." Then a freakish change comes, with a burst of wind swirling into the shooting field. It lifts oddly - faster or slower - as if it were bewitched. As the wind hits her face, she calls "pull!" The birds seem to lift oddly, moving high and then low in the wind, as if frolicking in the air. The fox speaks twice as two orange puffs mark the light blue sky. She loads two-7½'s into the chambers, and in a ready position, she calls "pull!" Two orange birds race into the air against a flashing blue; they fly to the right, skimming and lifting all at once. The fox speaks twice as two orange puffs mark the blue sky - two hits. Next is the rabbit run. She shouts "pull" as the rabbits race along the green grass. The fox is in pursuit. They try hard to move from the howling fox. It is in vain as the fox speaks again. As the excitement runs through her, on and on it goes. "Pull!" is the call of the day. She has total concentration. She is calm; her heart still. It's her passion for the game that drives Lynne. Ahhh, the smell of excitement at Walnut Hill's Trap and Sporting Clays. So, "let the Games begin!" P.S. We all miss you, so get well, Lynne! I have traveled the same path; remember, we are both ornery members of the Hill, and will be here to the end of time, as God watches over all his children. See you on the range - soon!